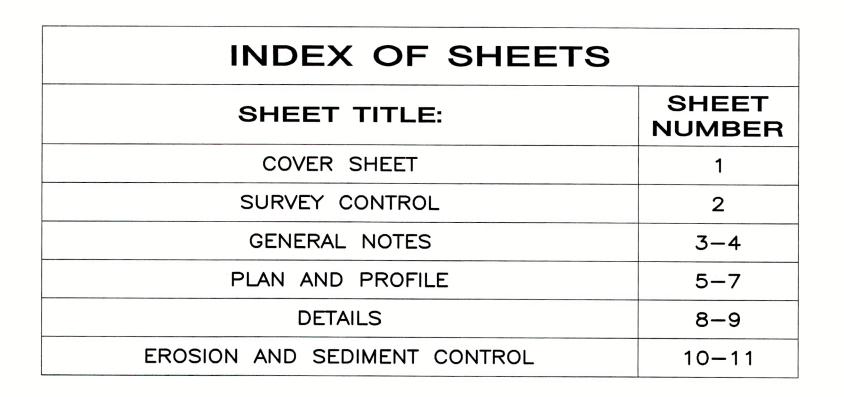
# THE CITIES OF WILLOUGHBY & EASTLAKE LAKE COUNTY, OHIO WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS OPWC PROJECT No.: CG22AA/CG23AA PART B

FEBRUARY 2024





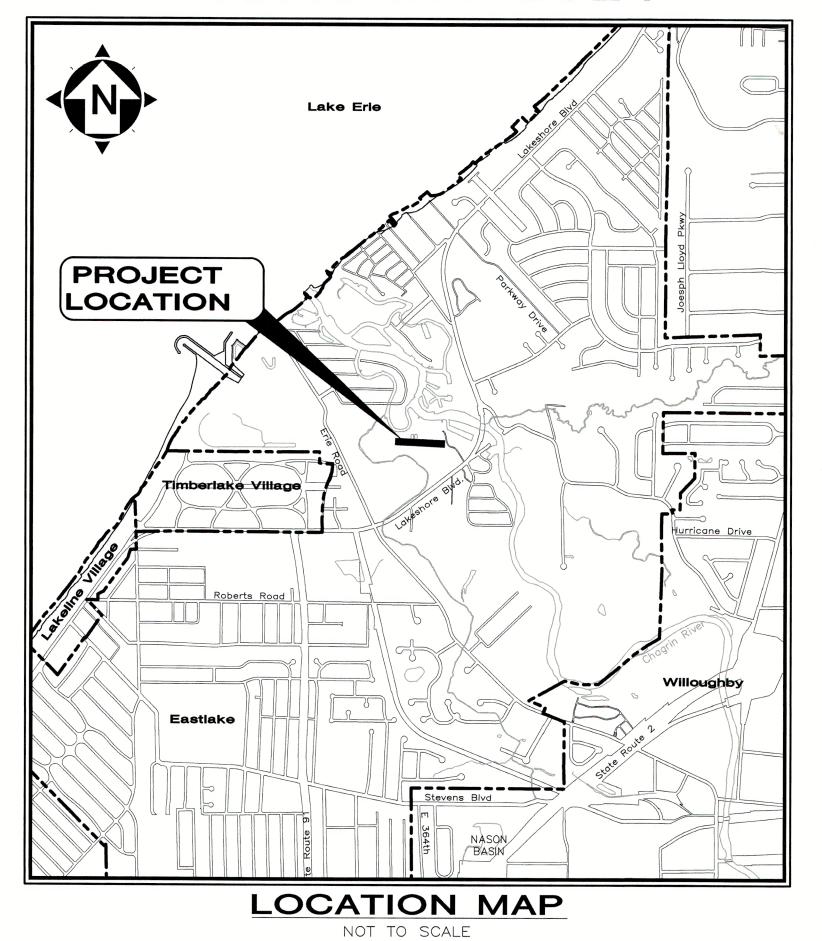
### UNDERGROUND UTILITIES CONTACT BOTH SERVICES CALL TWO WORKING DAYS **BEFORE YOU DIG** 1-800-362-2764 📆 🛣 OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECTLY OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988



1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER

2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.

3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.





ENGINEER'S PROJECT No. 23004301

CITY OF EASTLAKE APPROVALS:

P.E. No. 66017

TED WHITTINGTON

Approved

Fire Marshal

Eastlake Fire Department

DATE

THE CITIES OF WILLOUGHBY & EASTLAKE

WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS

LAKE COUNTY, OHIO

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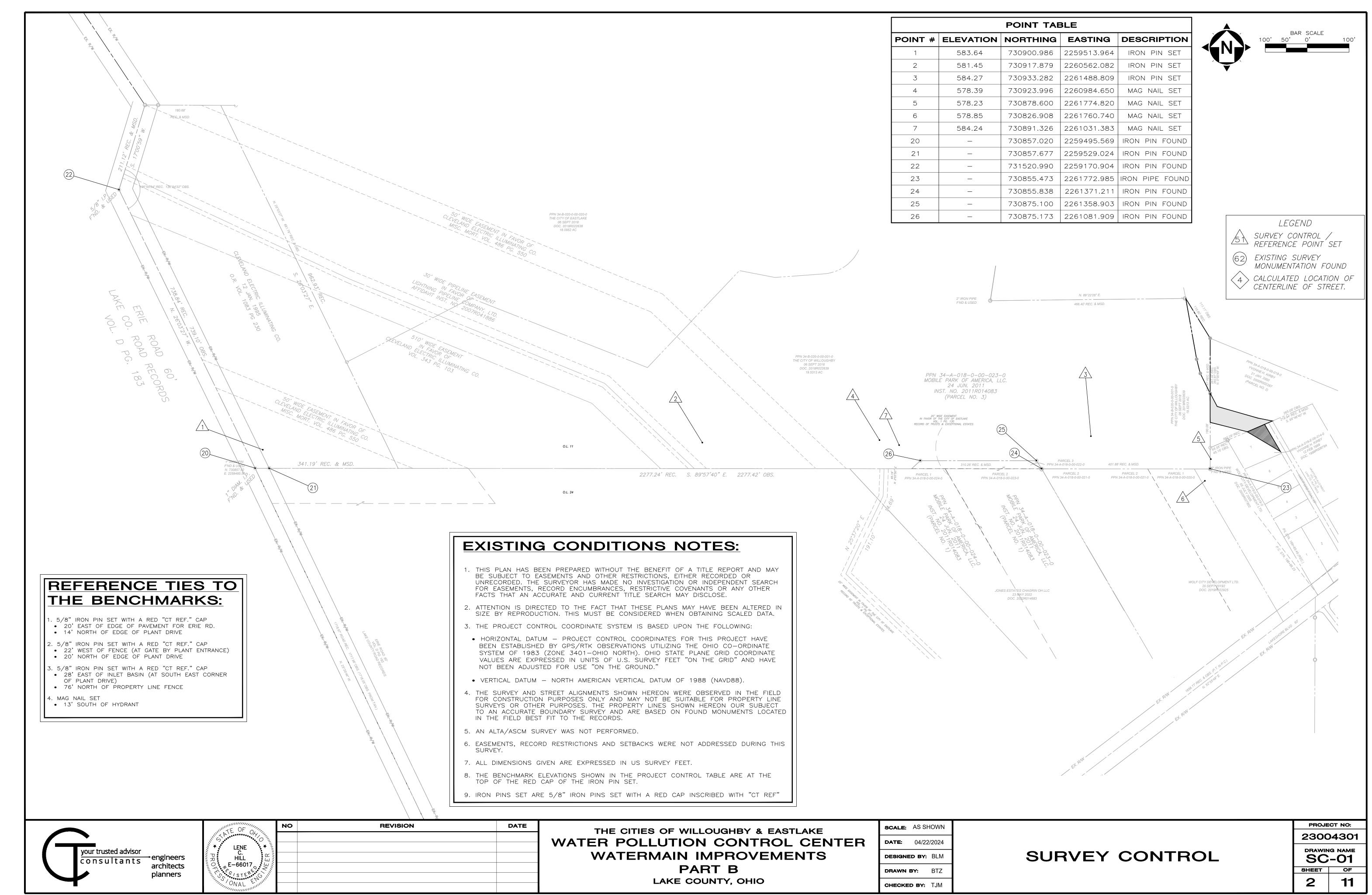
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THE CONTRACTOR SHALL PERFORM ALL OF THE WORK AND FURNISH ALL OF THE LABOR AND MATERIALS NECESSARY FOR THE FINAL COMPLETION OF THIS CONTRACT IN THE MANNER AND UNDER THE CONDITIONS HEREIN SPECIFIED AND PROVIDED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF WILLOUGHBY ENGINEER PRIOR TO THE COMMENCEMENT OF ANY WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO THE CITY OF WILLOUGHBY PRIOR TO THE COMMENCEMENT OF WORK.

ACCESS TO ALL DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES EXCEPT THE TIME WHEN WATERMAIN INSTALLATION AND PAVEMENT REPLACEMENT WILL NOT PERMIT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING A SITE FOR DISPOSAL OF ALL EXCAVATED MATERIAL THAT IS UNSUITABLE FOR USE AS BACKFILL AND ALL OTHER EXCESS EXCAVATED MATERIALS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH THE LOCATION OF THE DISPOSAL SITE AND WRITTEN PERMISSION FOR USE OF THE SITE FROM THE PROPERTY OWNER.

ALL OVER-THE-ROAD VEHICLES USED ON THE PROJECT BY ALL CONTRACTORS AND SUB- CONTRACTORS WILL BE CLEARLY MARKED SHOWING ITS COMPANY SYMBOL.

BEFORE THE CITY OF WILLOUGHBY WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER, THE CONTRACTOR WILL FURNISH THE CITY OF WILLOUGHBY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTOR HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.

THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY, AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.

THE CONTRACTOR IS TO TAKE CARE DURING EXCAVATION, PIPE INSTALLATION AND BACKFILLING, IN AREAS IMMEDIATELY ADJACENT TO TREES, TO MINIMIZE THE DISTURBANCE OF ROOT SYSTEMS AND TREE LIMBS. THE COST OF ANY EXTRA EFFORT SUCH AS HAND EXCAVATION IS TO BE INCLUDED IN THE UNIT PRICE BID FOR PIPE INSTALLATION.

MATERIALS FOR "AS-DIRECTED" ITEMS SHALL NOT BE ORDERED OR DELIVERED TO THE PROJECT SITE OR WORK PERFORMED UNTIL AUTHORIZED BY THE ENGINEER.

ALL SHOP DRAWINGS WILL BE SUBMITTED TO THE ENGINEER FOR CHECKING.

#### EXCAVATION, BACKFILL AND COMPACTION

ALL WORK SHALL BE IN ACCORDANCE WITH TRENCH, EMBEDMENT, AND BACKFILL DETAIL.

ALL EXCAVATION WILL BE CONSIDERED UNCLASSIFIED. NO COMPENSATION WILL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.

SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING, BACKFILL, OR TRAFFIC COMPACTED SURFACE.

ALL UTILITY LINES CROSSING THE SEWERS, i.e. STORM SEWERS, STORM LATERALS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND TELEPHONE AND ELECTRIC CONDUITS, CABLE T.V. LINES, WHETHER SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK.

#### **EXCESS EXCAVATION**

ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY IF THE MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS.

#### MATERIAL SPECIFICATIONS

MATERIAL SPECIFICATIONS CALLED FOR ON THE PLANS REPRESENT THE MINIMUM REQUIRED FOR EACH APPLICATION. THE OWNER MAY REQUEST OR THE CONTRACTOR MAY DESIRE TO SUBSTITUTE ALTERNATIVE MATERIALS. ANY SUCH SUBSTITUTIONS MUST BE EQUIVALENT IN QUALITY TO THE MATERIAL CALLED FOR AND MUST BE APPROVED IN WRITING BY THE APPROVING AGENCIES AND THE ENGINEER.

THE CONTRACTOR SHALL INCLUDE THE COST OF GRANULAR BACKFILL MATERIAL UNDER ALL EXISTING AND PROPOSED PAVEMENTS IN THE PRICE BID PER LINEAR FOOT OF PIPE.

THE CONTRACTOR SHALL INFORM THE ENGINEER WHEN ENCOUNTERING EXISTING STORM AND SANITARY CONNECTIONS NOT SHOWN ON THE PLANS OR CONNECTIONS THAT MAY PRESENT A CONFLICT WITH THE INTENT OF THE PROPOSED WATER LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ENGINEER WITH INFORMATION ON ELEVATION AND NATURE OF CONNECTIONS IN QUESTION. ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.

THE COST FOR FURNISHING ALL MATERIAL AND LABOR TO PERFORM ALL WORK STATED IN THE WATERMAIN INSTALLATION NOTES SHALL BE INCLUDED IN THE BID PRICES STIPULATED FOR VARIOUS ITEMS IN THE BID PROPOSAL.

#### TRAFFIC CONTROL

MAINTAINING TRAFFIC/TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). AS A MINIMUM THE CONTRACTOR SHALL SUBMIT A CONTROL PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO BEGINNING WORK.

IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN. TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING AND OTHER TRAFFIC CONTROLS TO INSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.

THE CONTRACTOR WILL FURNISH AND INSTALL TRAFFIC COMPACTED SURFACE WITH ODOT 304 INCLUDING NECESSARY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL.

THE CONTRACTOR SHALL POST 5 M.P.H. SPEED LIMIT SIGNS IN ALL WORK ZONES AND AS DIRECTED BY THE ENGINEER.

ACCESS MUST BE MAINTAINED FOR RESIDENCES, BUSINESSES, EMERGENCY VEHICLES AND PEDESTRIANS, INCLUDING PERSONS WITH DISABILITIES, AT ALL TIMES.

AT ALL EXCAVATION LOCATIONS THE CONTRACTOR SHALL PROVIDE SUITABLE FLASHERS, BARRICADES, AND TRAFFIC CONTROL DEVICES AS DEEMED NECESSARY BY THE ENGINEER AND IN ACCORDANCE WITH THE MUTCD. THE CONTRACTOR SHALL MAINTAIN FACILITIES ON A 24 HOUR BASIS UNTIL SUCH TIME AS THE AREA IS COMPLETELY BACKFILLED.

WHERE CONSTRUCTION ACTIVITIES MAY REQUIRE AN ALTERNATE CIRCULATION PATH, THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO SECURE A TEMPORARY PEDESTRIAN ACCESS ROUTE. THE TEMPORARY PEDESTRIAN ACCESS ROUTE SHALL ACCOMMODATE PERSONS WITH DISABILITIES IN ACCORDANCE WITH THE MUTCD, FEDERAL AND LOCAL GUIDELINES OR REGULATIONS. THE CONTRACTOR SHALL MAINTAIN FACILITIES ON A 24 HOUR BASIS UNTIL THE PROJECT IS COMPLETE AND ACCEPTED BY THE CITY.

#### EXISTING GAS MAINS

ONE FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DOMINION EAST OHIO'S (DEO) EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DEO'S PIPELINE(S), IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DEO FACILITY OR APPURTENANCE. NOTIFY DEO IMMEDIATELY IF ANY HARM HAS BEEN INFLICTED UPON DEO'S FACILITIES (PIPELINES, ETC.) OR APPURTENANCES THERETO (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION WIRES AND DEVICES, TEST SITES, VALVE BOXES, ETC.).

#### **EXISTING UTILITIES**

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF WILLOUGHBY DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. PRIVATE UTILITY CONNECTIONS TO BUILDINGS MAY NOT BE SHOWN, I.E. GAS, WATER, STORM, ELECTRIC.

BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE" AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE CITY OF WILLOUGHBY, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE CITY OF WILLOUGHBY INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NOT BE THE RESPONSIBILITY OF THE CITY.

DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.

THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

THE CITY OF WILLOUGHBY RICH PALMISANO, PUBLIC SERVICE DIR. ONE PUBLIC SQUARE WILLOUGHBY, OHIO 44094 PHONE: (440) 953-4111

THE ILLUMINATING COMPANY 6896 MILLER ROAD, SUITE 110 BRECKSVILLE, OHIO 44141 PHONE: (440) 717-6845 CELL: (440) 550-9001

13630 LORAIN STREET. 2ND FLOOR CLEVELAND, OHIO 44111 PHONE: (216) 476-6142

OHIO UTILITY PROTECTION SERVICE PHONE: 1(800) 362-2764

THE CITY OF EASTLAKE NICK RUBERTINO, PUBLIC SERVICE DIR. 35150 LAKESHORE BLVD EASTLAKE, OHIO 44095 PHONE: (440) 951-1416

LAKE COUNTY DEPARTMENT OF UTILITIES RANDY ROTHLISBERGER 105 MAIN STREET PAINESVILLE, OHIO 44077 PHONE: (440) 350-2645

DOMINION EAST OHIO 320 SPRINGSIDE DRIVE, SUITE 320 AKRON, OHIO 44333 PHONE: (330) 664-2409

TIME WARNER CABLE 7820 DIVISION DRIVE MENTOR, OHIO 44060 PHONE: (440) 361-0023

#### TREE/VEGETATION PROTECTION

ANY LANDSCAPING AND LAWNS DISTURBED BY CONSTRUCTION WORK SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE CITY.

NO TREE REMOVAL WILL BE PERMITTED WITHOUT PERMISSION OF THE CITY.

TREES WHICH ARE NOT REMOVED WILL BE PROTECTED.

THE COST FOR REMOVAL AND/OR PROTECTION OF TREES THAT ARE IN CONFLICT WITH THE INSTALLATION OF THE WATERLINE AND SERVICE CONNECTIONS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WATERLINE.

THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, LIMBS AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS AND MATERIALS.

#### AIR/NOISE CONTROL

CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAY DAYTIME HOURS, UNLESS APPROVED IN ADVANCE BY THE CITY.

CONSTRUCTION EQUIPMENT WILL BE PROVIDED WITH INTAKE SILENCERS AND MUFFLERS, AS REQUIRED BY SAFETY STANDARDS.

ALL CONSTRUCTION VEHICLES SHOULD BE EQUIPPED WITH PROPER EMISSIONS CONTROL EQUIPMENT.

PERIODICALLY CHECK EQUIPMENT AND MACHINERY FOR PROPER TUNING TO MINIMIZE EXHAUST EMISSIONS AND NOISE.

#### **MONUMENT PROTECTION**

PROPERTY PINS AND MONUMENTS ALONG THE ROUTE OF THE IMPROVEMENT, WHICH MAY BE DISTURBED BY THE CONTRACTOR, SHALL BE REFERENCED BY A PROFESSIONAL SURVEYOR, SO THEY CAN BE REPLACED IN THE EVENT THAT THEY ARE DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL PINS, MONUMENTS AND REFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF LOCATING AND REFERENCING AND REPLACING THE PROPERTY PINS AND MONUMENTS DISTURBED AND/OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL CLEAN UP ALL DEBRIS AND MATERIALS RESULTING FROM HIS OPERATION AND RESTORE ALL SURFACES, STRUCTURES, DITCHES AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER.

ALL EXISTING STORM AND SANITARY SEWER FACILITIES, INCLUDING TILE, DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED, REPLACED OR RECONNECTED TO THE EXISTING OR PROPOSED SYSTEM AS DIRECTED BY THE ENGINEER AT NO COST TO THE OWNER.

#### ENVIRONMENTAL PROTECTION - PROHIBITED CONSTRUCTION ACTIVITIES

DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOOD PLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.

LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.

INDISCRIMINATE, ARBITRARY OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS OR OUTSIDE THE EASEMENT LIMITS.

PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, WETLANDS OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.

DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.

DAMAGING ANY VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, SURFACE WATERS OR AT UNSPECIFIED LOCATIONS.

OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.

DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, DRILLING, BUFFING, GRINDING, POLISHING, SHAPING OR SURFACING CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC

STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR

RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE PROPERTY OR PUBLIC PROPERTY AND RIGHT-OF-WAY WITHOUT THE WRITTEN PERMISSION OF THE OWNER AND THE CONSENT OF THE

OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 A.M. AND 5:00 P.M. OR OUTSIDE THE HOURS ALLOWED FOR CONSTRUCTION BY LOCAL ORDINANCES OR REGULATIONS.

CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER, AND CLOSING CLEAR ACCESS:

- 1. BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES.
- 2. BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR
- PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE. 3. BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

#### SOIL EROSION AND SEDIMENT CONTROLS

THE CONTRACTOR SHALL FOLLOW POLLUTION CONTROL MEASURES IN ACCORDANCE WITH SECTION 01091 OF THE DETAILED SPECIFICATIONS.

SPECIFICATIONS AND ODOT SUPPLEMENTAL SPECIFICATION 832.

THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROL IN ACCORDANCE WITH THE PLANS,

THE COST TO PROVIDE THE POLLUTION CONTROL MEASURES SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS IN THE BID PROPOSAL.

STORMWATER POLLUTION PREVENTION PLANS AND DETAILS ARE PROVIDED AS MINIMUM REQUIREMENTS FOR ENVIRONMENTAL PROTECTION.

#### WATER WORKS

DEPTH OF EXISTING WATER MAINS AND SEWERS AT LOCATIONS WHERE NEW WATER MAIN IS PROPOSED TO CROSS. THE NEW WATER MAIN ELEVATION SHALL BE ADJUSTED BY VERTICAL JOINT DEFLECTION FROM THE SIX (6) FOOT TYPICAL BURY DEPTH ONE (1) FOOT EITHER WAY BUT IN NO CASE HIGHER THAN THE MINIMUM FIVE (5) FOOT BURY DEPTH TO AVOID CROSSING CONFLICTS WITH THE EXISTING WATER MAIN AND SEWERS AT NO ADDITIONAL COST TO THE CONTRACT. IF DEPTH ADJUSTMENT BY VERTICAL JOINT DEFLECTION IS NOT POSSIBLE TO AVOID CROSSING CONFLICTS THE PROPOSED WATER MAIN SHALL BE LOWERED IN ACCORDANCE WITH THE PIPE LOWERING DETAIL, AT NO ADDITIONAL COST TO THE CITY.

HYDRANTS DESIGNATED FOR REMOVAL SHALL BE REMOVED UNDER LAKE COUNTY WATER DEPARTMENT SUPERVISION. SPECIAL CARE IN REMOVAL AND HANDLING OF EXISTING HYDRANTS SHALL BE TAKEN AT ALL TIMES. REMOVAL OF EXISTING HYDRANTS IS TO BE DONE BY EXCAVATION AND DISASSEMBLY OF HYDRANT ASSEMBLIES.

ALL REMOVED HYDRANTS SHALL BECOME THE PROPERTY OF THE LAKE COUNTY WATER DEPARTMENT. REMOVED HYDRANTS ARE TO BE STORED ON JOB SITE FOR PICK-UP BY THE LAKE COUNTY WATER DEPARTMENT. CONTACT AQUARIUS SERVICE CENTER TO SCHEDULE PICK-UP.

ALL HYDRANTS PROVIDED SHALL BE 5'-6" BURY DEPTH (BURY LINE TO BOTTOM OF HYDRANT SHOE) WITH EXTENSIONS PROVIDED TO THE WATER MAIN DEPTH SHOWN IN THE PLANS.

5" STORZ FITTINGS ON HYDRANTS

THE EASTLAKE FIRE PREVENTION BUREAU IS TO BE NOTIFIED WHEN WATER WORK IS STARTED. (440-951-2287)

SERVICE RECONNECTIONS TO EXISTING METER VAULTS SHALL BE MADE BETWEEN THE NEW MAIN AND THE EXISTING VAULT. WHERE EXISTING VAULTS ARE EN- COUNTERED IN DRIVE APRONS, THEY SHALL BE EXPOSED AND A FIELD DECISION MADE AS TO WHETHER THE VAULT CAN BE RELOCATED TO THE

ABANDONMENT OF THE EXISTING WATER MAIN SHALL BE MADE AS CLOSE TO THE LIVE MAIN AS POSSIBLE. THIS SHALL BE DETERMINED BY L.C.D.U.

AFTER SATISFACTORY TESTING, THE COMPLETED WATER WORK SHALL BE DISINFECTED IN ACCORDANCE WITH A.W.W.A. C651. THE NEW WATER MAIN CANNOT BE PLACED INTO SERVICE UNTIL ALL PROVISIONS OF

THE EXISTING HYDRANTS WILL NOT BE TAKEN OUT OF SERVICE UNTIL ALL NEW HYDRANTS FOR A GIVEN STREET ARE OPERATIONAL. ALL NEW HYDRANTS SHALL BE BAGGED UNTIL THEY ARE OPERATIONAL.

ALL CURB STOP BOXES, VALVE BOXES ETC. SHALL BE SET AS SHOWN ON THE PLANS. RIMS SHALL BE RAISED OR LOWERED AND BOXES PLUMBED BY THE CONTRACTOR AS REQUIRED PRIOR TO REPLACEMENT.

ALL VALVES SHALL BE OPERATED BY THE LAKE COUNTY UTILITY DEPARTMENT ONLY. THE CONTRACTOR SHALL SCHEDULE WITH THE LAKE COUNTY UTILITIES DEPARTMENT 24 HOURS IN ADVANCE.

NO CURB BOXES OR METER VAULTS SHALL FALL WITHIN ANY DRIVE OR APRON.

SHOULD ANY EXISTING METER REQUIRE REPLACEMENT, AS DETERMINED BY THE L.C.D.U., THE CONTRACTOR SHALL REPLACE THE METER AND THE NEW METER WILL BE SUPPLIED BY THE L.C.D.U.

#### LAKE COUNTY DEPARTMENT OF UTILITIES WATER NOTES

- 1. ONLY WATER/SEWER CONTRACTORS LICENSED BY THE LAKE COUNTY BOARD OF COMMISSIONERS MAY INSTALL WATER MAINS.
- 2. THIS APPROVAL BY THE LCDU SHALL EXPIRE IF THE WATERLINE CONSTRUCTION HAS NOT BEEN INITIATED BY A DEVELOPER WITHIN (12) MONTHS OF THE EFFECTIVE APPROVAL DATE AS SHOWN ON THE ORIGINALLY SUBMITTED FOR APPROVAL BLUEPRINT COPY. (THIS IS NOT TO BE CONSTRUED AS THE DATE THAT IS SHOWN ON THE ORIGINAL MYLAR TITLE SHEET.)
- 3. THE CONTRACTOR SHALL NOTIFY THE LCDU AT LEAST 48 HOURS IN ADVANCE OF ANY WORK IN THEIR
- 4. THE LCDU SHALL PERFORM INSPECTION SERVICES. THE COST OF INSPECTION SHALL BE INCLUDED AS PART OF THIS CONSTRUCTION PROJECT AT THE CURRENT BASE RATE AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS. (SEE SECTION 7 FEE SCHEDULE) COST FOR LAKE COUNTY INSPECTION FEE AND OTHER FEES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR OTHER WATERLINE ITEMS.
- 5. WATERLINE WORK SHALL NOT BEGIN UNTIL THE AREAS OF CONSTRUCTION ARE ROUGH GRADED.
- 6. ALL WATERLINES ON THIS PROJECT SHALL BE LAID AT THE ELEVATIONS AND GRADES SHOWN ON THE DRAWINGS. HIGH POINTS IN THE WATERLINE MUST OCCUR AT THE STATIONED HYDRANT TEE
- 7. ALL HYDRANTS SHALL BE POSITIONED SO THAT THE STEAMER NOZZLES POINT IN THE DIRECTION SHOWN ON THE PLANS.
- 8. THE PROPOSED WATERLINE SHALL HAVE 5' MINIMUM COVER OVER THE TOP OF PIPE AT ALL PLACES. EXCEPT AT SPECIFIC HYDRANT TEE LOCATIONS AS SHOWN ON THE PLANS.
- 9. ALL BOLTS SHALL BE STAINLESS STEEL TYPE 304 OR 316 WITH ANTI-GALLING AGENT.
- 10. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR PRELIMINARY CHECKING. THE ENGINEER SHALL FORWARD CHECKED SHOP DRAWINGS TO THE LCDU FOR FINAL CHECKING AND
- 11. THE LCDU SHALL PROVIDE WATER FOR THE NEW WATER MAIN WITHOUT COST FOR THE INITIAL OPERATION. ALL WATER FOR FLUSHING OPERATIONS SHALL BE PAID FOR BY THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 100 CUBIC FEET OF WATER USED. (SEE SECTION 7 FEE SCHEDULE)
- 12. LOCATION OF STERILIZATION AND TESTING CONNECTIONS SHALL BE AS DIRECTED BY THE LCDU AND ALL COSTS ASSOCIATED WITH PLACING AND UTILIZING SAID STERILIZATION AND TESTING CONNECTIONS SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF THE WATER MAINS. NO BACTERIA SAMPLES ARE TO BE TAKEN FROM FIRE HYDRANTS.
- 13. LCDU WILL MAKE THE NECESSARY NEW SERVICE CONNECTION TAPS ON EXISTING LCDU MAINS FOR THE CONTRACTOR AT CURRENT RATES AS ESTABLISHED BY THE LAKE COUNTY BOARD OF COMMISSIONERS PER 8" AND GREATER TAPS WITHIN RIGHT OF WAY. (SEE SECTION 7 FEE SCHEDULE) SERVICE CONNECTIONS TO EXISTING BUILDINGS SHALL BE MADE BY THE CONTRACTOR.
- 14. NO WATER SERVICE CONNECTIONS TO ANY BUILDING SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY THE LCDU INCLUDING RECTIFICATION OF ALL PUNCH LIST ITEMS.
- 15. ALL CURB STOP BOXES, VALVE BOXES, ETC. TO BE SET AS SHOWN ON THE PLANS. RIMS WILL BE RAISED OR LOWERED AND BOXES PLUMBED BY THE CONTRACTOR AT TIME OF HOUSE CONSTRUCTION WHEN FINAL YARD GRADING IS COMPLETED.
- 16. ALL PROJECT HYDRANTS SHALL HAVE A FIELD COAT OF APPROVED PAINT APPLIED BY THE CONTRACTOR WITH THE EXCEPTION OF HYDRANTS THAT ARE FACTORY PAINTED WITH A ONE COAT UV RESISTANT HIGH GLOSS 2-PART POLYURETHANE ENAMEL, COLOR AS SPECIFIED. IF THE COATING ON THE HYDRANT IS DAMAGED BEFORE INSTALLATION THE HYDRANT MUST BE PAINTED.
- 17. THE CONTRACTOR SHALL NOTIFY THE FIRE DEPARTMENT PRIOR TO ANY PRESSURE TESTING. FIRE DEPARTMENT SHALL WITNESS ANY PRESSURE TESTING.
- 18. ALL PROPOSED WATER LINES SHALL BE LAID OUT BY A REGISTERED SURVEYOR WITH GRADE STAKES AT A MINIMUM OF EVERY 50' AND AT ALL FITTINGS AND A CUT SHEET PROVIDED PRIOR TO
- 19. THE CONTRACTOR /DEVELOPER SHALL SUBMIT A THREE YEAR MAINTENANCE BOND TO THE COMMISSIONERS BY DEVELOPER IN THE AMOUNT OF TEN PERCENT OF THE FINAL CONSTRUCTION COSTS AS CERTIFIED BY THE DEVELOPER'S ENGINEER, FOR PUBLIC EXTENSION PROJECTS.
- 20. METER VAULT AT WPCC HAS CORE WITH FLAP AS WELL AS BEING CONNECTED TO STORM SEWER FOR OVERFLOW.

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## NO **REVISION** DATE

THE CITIES OF WILLOUGHBY & EASTLAKE WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS PART B LAKE COUNTY, OHIO

**DATE:** 04/22/2024 **DESIGNED BY:** BLM DRAWN BY: BTZ CHECKED BY: TJM

**SCALE:** AS SHOWN

**GENERAL NOTES - 1** 

PROJECT NO: 23004301 **DRAWING NAME GN-01** SHEET OF 11

#### WATERMAIN NOTES

WATER MAINS (3" THROUGH 36") SHALL BE PVCO AND MANUFACTURED IN ACCORDANCE WITH AWWA C909. ALL PIPES, UNLESS OTHERWISE SPECIFIED, SHALL BE FURNISHED WITH PUSH—ON TYPE JOINTS, PROVIDED WITHIN THE LENGTHS NOTED ON THE DRAWING, AND BE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

RESTRAINED PUSH-ON JOINTS SHALL BE COMPLETELY BOLTLESS; RESTRAINED MECHANICAL JOINTS SHALL BE MEGALUGS OR RETAINERS WITH A MAGE BONDING COATING SYSTEM AS MANUFACTURED BY EBAA IRON, INC., OR AS APPROVED, OF DUCTILE IRON AND WITH A WORKING PRESSURE OF AT LEAST 250 PSI AND A MINIMUM SAFETY FACTOR OF 2:1. MINIMUM LENGTH OF CUT PIECES OF WATER MAIN THAT MAY BE REUSED IS 5 LF.

FITTINGS SHALL BE DUCTILE IRON AND MANUFACTURED IN ACCORDANCE WITH ANSI/AWWA C110/A21.10. ALL FITTINGS AND ACCESSORIES SHALL BE FURNISHED WITH MECHANICAL TYPE JOINTS IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.

ALL FITTINGS, BENDS, TEES, PLUGS, ETC. SHALL BE TIED TO THE WATER MAIN WITH EITHER M.J. TYPE CONNECTIONS, TIE RODS OR MEGA-LUGS. TIE RODS SHALL BE 3/4" DIAMETER STAINLESS STEEL. FOR 24" DIAMETER PIPE USE FOUR RODS.

FIRE HYDRANTS SHALL BE POST TYPE WITH A BREAKABLE FLANGE DESIGN. THE MAIN VALVE SHALL BE 5¼", OPENING LEFT WITH ONE 4½" STEAMER/PUMPER NOZZLE AND TWO 2½" HOSE NOZZLES, ALL WITH NATIONAL STANDARD THREADS UNLESS OTHERWISE SPECIFIED. THE OPENING NUT SHALL BE PENTAGONAL IN SHAPE. HYDRANTS SHALL HAVE A 6" MECHANICAL JOINT TYPE SHOE WITH A 5'-0" BURY DEPTH. HYDRANTS SHALL BE SHIPPED AND PAINTED AS DIRECTED BY THE CITY. NOTE — FIRE HYDRANT ASSEMBLIES SHALL CONSIST OF:

- MECHANICAL JOINT ANCHOR TEE
- 6" M.J. X M.J. GATE VALVE AND BOX
- 6" DUCTILE IRON PIPE (LENGTH VARIES)
- FIRE HYDRANT (SEE ABOVE)
- ALL NECESSARY APPURTENANCES

• 5¼" EXTENSION KIT (IF REQUIRED)

GATE VALVES SHALL BE IRON-BODY, RESILIENT-WEDGE GATE VALVES MEETING THE REQUIREMENTS OF AWWA C509 OR DIP BODY MEETING THE REQUIREMENT OF C515. VALVES SHALL BE DESIGNED FOR A WORKING WATER PRESSURE OF 200 PSI, SHALL BE OF THE NON-RISING STEM TYPE WITH STANDARD AWWA NUT, AND SHALL OPEN IN THE DIRECTION CHOSEN BY THE MUNICIPALITY. STEM SEALS SHALL CONSIST OF AT LEAAST TWO O-RINGS. ENDS SHALL BE MECHANICAL JOINT.

BUTTERFLY VALVES SHALL BE OF THE SIZE SHOWN ON THE PLANS AND MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C-504 WITH A MAXIMUM WORKING PRESSURE OF 250 PSIG. THE VALVE SHALL HAVE A DUCTILE IRON BODY CONFORMING TO ASTM A-536 WITH MECHANICAL JOINT ENDS. ALL EXTERIOR SURFACES SHALL HAVE AN EPOXY COATING WHICH COMPLIES WITH AWWA C-550. THE ACTUATOR SHALL BE MANUALLY OPERATED WITH A 2" SQUARE NUT, WHICH OPENS COUNTER CLOCKWISE (LEFT).

VALVE BOXES SHALL BE CAST IRON, SHALL BE COATED WITH A BITUMASTIC PAINT, SHALL BE OF THE THREE PIECE SCREW TYPE, SHALL HAVE A 5-1/4 INCH SHAFT, HEAVY DUTY TOP SECTION, AND SHALL BE PROVIDED WITH A SLOTTED HEAVY, NEAT-FITTING COVER HAVING THE WORD "WATER" CAST ON TOP. THE BASE OF THE VALVE BOX SHALL COVER THE ENTIRE BONNET SECTION OF THE VALVE. THE THREE PIECE VALVE BOX SHALL HAVE SUFFICIENT LENGTH, SUCH THAT WHEN INSTALLED, THE TOP OF THE COVER SHALL BE FLUSH WITH THE SURROUNDING SURFACE WITH EACH SECTION PROPERLY ENGAGED.

TAPPING SLEEVES SHALL HAVE A STAINLESS STEEL BODY WITH A DUCTILE IRON FLANGED OUTLET WHICH COMPLIES WITH ANSI B16.1, CLASS 125 AND WITH MSS SP-60. THE GASKET SHALL COMPLETELY SURROUND THE INSIDE OF THE STAINLESS STEEL BODY. THE SLEEVE SHALL COME EQUIPPED WITH A 3/4" NPT BRASS TEST PLUG. MAXIMUM WORKING PRESSURE FOR 4" - 12" SIZES (250 PSIG) AND FOR 14" - 24" SIZES (200 PSIG). TAPPING VALVES SHALL MEET OR EXCEED ALL APPLICABLE REQUIREMENTS OF ANSI/AWWA C509. THE INLET FLANGE SHALL COMPLY WITH ANSI B16.1, CLASS 125 DRILLING. THE MECHANICAL JOINT OUTLET SHALL COMPLY WITH ANSI/AWWA C111. THE VALVE SHALL HAVE A NON-RISING STEM (NRS). THE OPERATING NUT SHALL BE 2" SQUARE, WHICH OPENS TO THE LEFT. VALVES SHALL COME EQUIPPED WITH A DOUBLE O-RING SEAL STUFFING BOX AND HAVE AN EPOXY COATING ON ALL EXTERIOR SURFACES WHICH COMPLIES WITH AWWA C550.

BLOW-OFF HYDRANT ASSEMBLIES SHALL BE ECLIPSE MODEL NO. 85, AS MANUFACTURED BY THE KUPFERLE FOUNDRY COMPANY (1-800-231-3990), OR APPROVED EQUAL. ASSEMBLIES SHALL BE SELF-DRAINING, NON-FREEZING, COMPRESSION TYPE WITH 2-3/16" MAIN VALVE OPENING. THE INLET CONNECTION SHALL BE 2"IP. THE OUTLET SIZE SHALL BE 2-1/2" NST. HYDRANT SHALL HAVE A CAST IRON BOX, LOCKING LID, AND 3" DUCTILE IRON RISER PIPE. THE INTERIOR OPERATING PARTS SHALL BE BRASS AND BE REMOVABLE FROM THE HYDRANT FOR SERVICING WITHOUT EXCAVATING THE HYDRANT. THE ASSEMBLY SHALL BE SET IN A MINIMUM FOUR (4) CUBIC FEET OF #57 WASHED STONE. THE DEPTH OF BURY SHALL BE 5'-6". THE TOP OF THE ASSEMBLY SHALL BE FLUSH WITH THE FINAL GRADE OF THE ADJACENT GROUND.

WATER SERVICE PIPE, 2" OR LESS, SHALL BE AS NOTED ON PLANS AND SPECIFICATIONS. SIZE SHALL BE AS NOTED ON THE PLANS (1" MINIMUM). ALL PIPES SHALL HAVE FLARE ENDS IN THE ROW. MINIMUM COVER OVER THE PIPE SHALL BE FOUR (4) FEET — SIX (6) INCHES UNLESS OTHERWISE NOTED ON THE DRAWINGS.

CORPORATION STOPS SHALL BE A BALL VALVE DESIGN, CAST FROM BRASS ALLOY, CONFORMING TO ANSI/AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS; OUTLET END SHALL HAVE A COPPER FLARE QUARTER BEND CONNECTION. ALL WATER SERVICE TAPS, 2" OR LESS SHALL BE TAPPED ON TOP OF THE WATER MAIN. THE CORPORATION STOPS AND QUARTER BEND SHALL BE BLOCKED.

CURB VALVES (STOPS) SHALL BE A ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORMING TO ANSI/AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG, AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER FLARE FITTINGS. CURB VALVES SHALL BE BURIED TO A MINIMUM DEPTH OF 4 FEET AND A MAXIMUM DEPTH OF 5 FEET.

CURB BOXES SHALL BE CAST IRON, TWO PIECE SCREW TYPE, ADJUSTABLE TO A TOTAL HEIGHT BETWEEN 48 INCHES TO 60 INCHES. LIDS SHALL BE CAST IRON WITH THE WORD "WATER" CAST INTO THE TOP. LIDS SHALL BE SECURED WITH ONE BRASS PENTAGONAL HEAD SCREW. ALL BOXES SHALL BE LOCATED WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER.

IF LEAD SERVICES ARE ENCOUNTERED PLEASE NOTIFY LCDU.

SERVICE FITTINGS TO CONNECT TO EXISTING WATER SERVICES WHICH ARE NOT 1" DIAMETER COPPER SHALL BE A MUELLER H-15425, SMITHBLAIR 525, OR EQUAL. BEFORE TESTING THE WATER MAIN, THE SYSTEM SHALL BE FLUSHED ACCORDING TO THE MOST CURRENT PROCEDURES SET FORTH BY THE OWNER WATER DEPT. CALL THE OWNER FOR THE MOST RECENT PROCEDURES. ALL LEAKS SHALL BE LOCATED AND REPAIRED BY THE CONTRACTOR. ALL WATER SAMPLES SHALL BE OBTAINED AND TESTED BY THE OWNER.

WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH AWWA C600. ALL TEST RESULTS MUST BE APPROVED BY THE OWNER BEFORE INSTALLATION OF WATER SERVICES. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN. TEST PRESSURE SHALL BE 150 PSI.

WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. COST SHALL BE SUBSIDIARY TO THE INSTALLATION OF WATER MAIN.

THE PROPOSED WATER SYSTEM SHALL MAINTAIN A MINIMUM STATIC PRESSURE OF 35PSI DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING STORM SEWERS, WHEN POSSIBLE, AS MEASURED FROM OUTSIDE EDGE UNLESS NOTED ON THE PLAN AND PROFILE SHEETS.

THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT HORIZONTAL SEPARATION AND 18 INCH VERTICAL SEPARATION BETWEEN THE PROPOSED WATER MAIN AND EXISTING SANITARY SEWERS, WHEN POSSIBLE, FROM OUTSIDE EDGE TO OUTSIDE FDGE.

THE CONTRACTOR SHALL NOT OPERATE OR TURN ANY EXISTING WATER VALVE. IF VALVES NEED TO BE OPENED OR CLOSED HE SHALL NOTIFY THE OWNER.

ALL ROUGH GRADING TO WITHIN SIX (6) INCHES OF FINISH GRADE SHALL BE COMPLETED OVER THE PROPOSED WATER MAIN PRIOR TO IT'S INSTALLATION.

THE LOCATION OF EXISTING WATER UTILITIES AS SHOWN ON THESE PLANS WERE DETERMINED FROM AVAILABLE DATA AT THE TIME OF FIELD SURVEYING IN ACCORDANCE WITH SECTION 153.63 OF THE OHIO REVISED CODE.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL FEES, AND FOLLOWING ALL REQUIREMENTS ASSOCIATED WITH THE PERMITS. THE OWNER ASSUMES NO LIABILITY FOR NOT FOLLOWING THE ABOVE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OHIO UTILITY PROTECTION SERVICE (OUPS) AS REQUIRED

NO WATERLINE TIE-INS SHALL BE DONE ON FRIDAYS OR THE DAY BEFORE A CITY HOLIDAY.

DEFLECT WATER MAIN AS REQUIRED TO MAINTAIN ALIGNMENT AS SHOWN ON PLANS. MAXIMUM DEFLECTION IS 15 DEGREES PER JOINT.

TEMPORARY BLOW-OFF AND FLUSHING ASSEMBLY:

- PIPE SHALL BE TYPE K COPPER WITH COMPRESSION FITTINGS.
- CORPORATION STOPS SHALL BE GROUND KEY DESIGN, CAST FROM A BRASS ALLOY AND CONFORM TO AWWA C800. INLET END SHALL HAVE AWWA TAPER THREADS. OUTLET END SHALL HAVE COPPER FLARE QUARTER BEND CONNECTION. ALL TAPS SHALL BE MADE ON TOP OF THE WATER MAIN. CORPORATION STOPS AND QUARTER BENDS SHALL BE BLOCKED.
- CURB VALVES (STOPS) SHALL BE ONE PIECE DESIGN, CAST FROM A BRASS ALLOY, CONFORM TO AWWA C800, HAVE A MAXIMUM WORKING PRESSURE OF 175 PSIG AND HAVE A QUARTER TURN CHECK. BOTH ENDS SHALL HAVE COPPER FLARE FITTINGS.
- LOCATIONS SHALL BE AS SHOWN ON THE DRAWINGS, AT A MINIMUM. CONTRACTOR SHALL INSTALL ADDITIONAL ASSEMBLIES AS NEEDED TO EXHAUST AIR AND TO COMPLY WITH REGULATIONS REGARDING PRESSURE TESTING, BACTERIA SAMPLING AND FLUSHING.
- AT COMPLETION OF TESTING, CLOSE CORPORATION STOP, REMOVE COPPER PIPING AND INSERT PLUG ON CORPORATION STOP.
- NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY BLOW-OFFS AND FLUSHING ASSEMBLIES.

INSTALL COPPER CLAD STEEL (CCS) TRACE WIRE AND ACCESS/TERMINATION BOXES OVER WATER MAIN PER SPECIFICATIONS.

#### **GEOTECHNICAL INVESTIGATION**

THE CONTRACTOR SHALL REVIEW THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY CT CONSULTANTS, INC. DATED FEBRUARY 5, 2024, AND ANY SUBSEQUENT REVISIONS. A COPY OF THIS REPORT WILL BE MADE AVAILABLE TO THE CONTRACTOR IN THE BID DOCUMENTS. THE CONTRACTOR SHALL ADHERE TO ALL ASPECTS AND RECOMMENDATIONS OF THE REPORT.

#### **CONTACT INFORMATION**

TRAILER PARK CONTACT INFORMATION:

JONES ESTATES LLC 2310 S MIAMI BLVD SUITE 238 DURHAM, NC 27703 919-666-7025

#### CONTINGENCY ITEMS

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER DISCRETION SHALL BE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE PROPOSAL FOR BOTH PART A AND PART B TO BE USED AS DIRECTED BY THE ENGINEER.

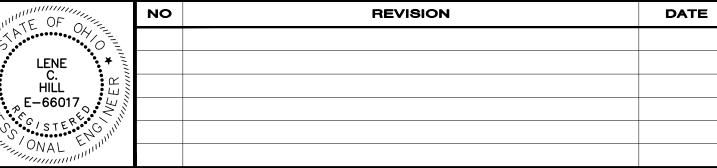
EXCAVATION OF SUBGRADE AND EMBANKMENT WITH GRANULAR MATERIAL, CCS. AS PER PLAN, CONTINGENCY, AS DIRECTED

80 CY

PAVEMENT REPAIR, AS PER PLAN

150 SY

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THE CITIES OF WILLOUGHBY & EASTLAKE
WATER POLLUTION CONTROL CENTER
WATERMAIN IMPROVEMENTS
PART B
LAKE COUNTY, OHIO

SCALE: AS SHOWN

DATE: 04/22/2024

DESIGNED BY: BLM

DRAWN BY: BTZ

CHECKED BY: TJM

GENERAL NOTES - 2

PROJECT NO:

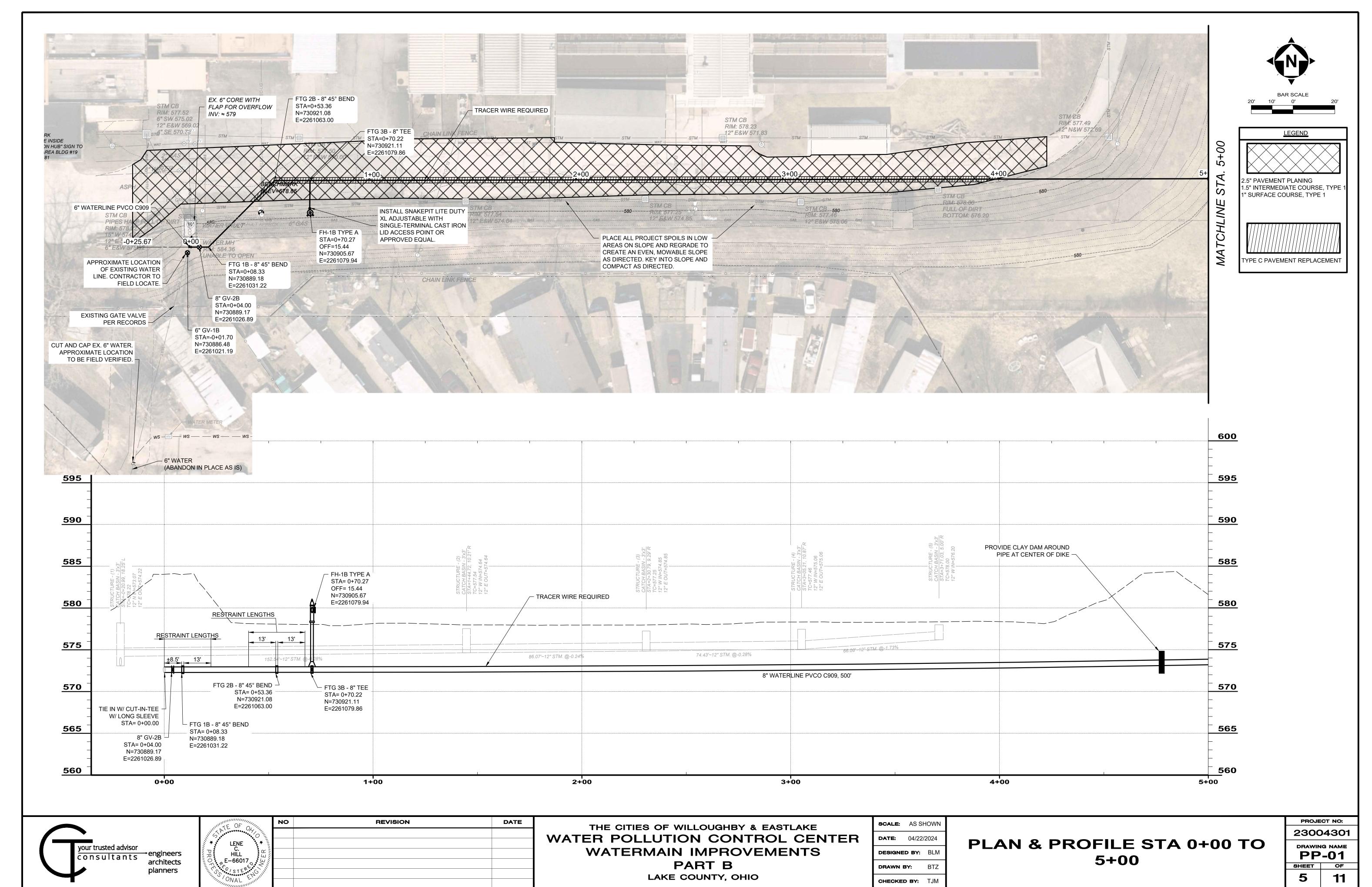
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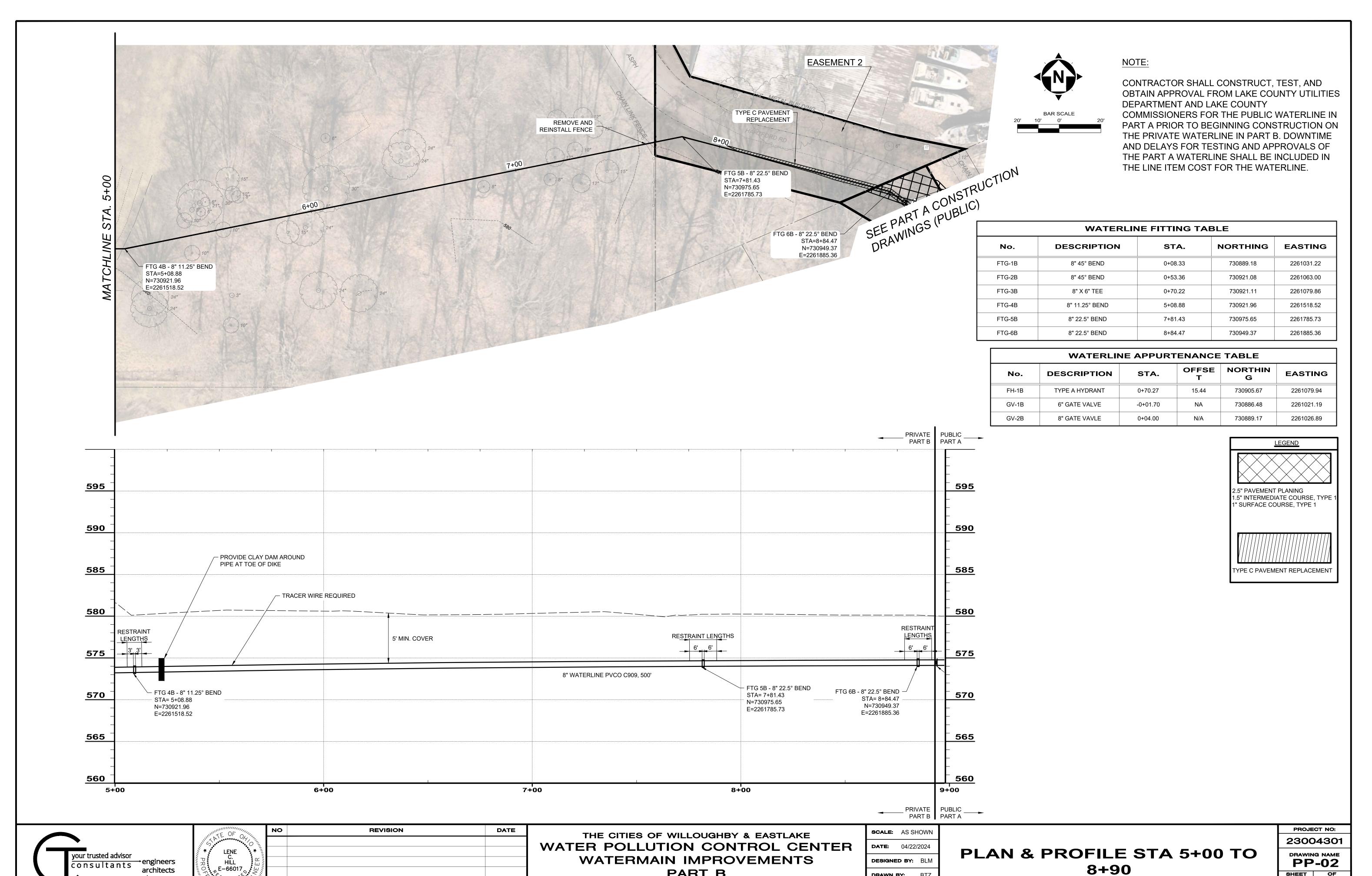
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PART B

LAKE COUNTY, OHIO

DRAWN BY: BTZ

CHECKED BY: TJM

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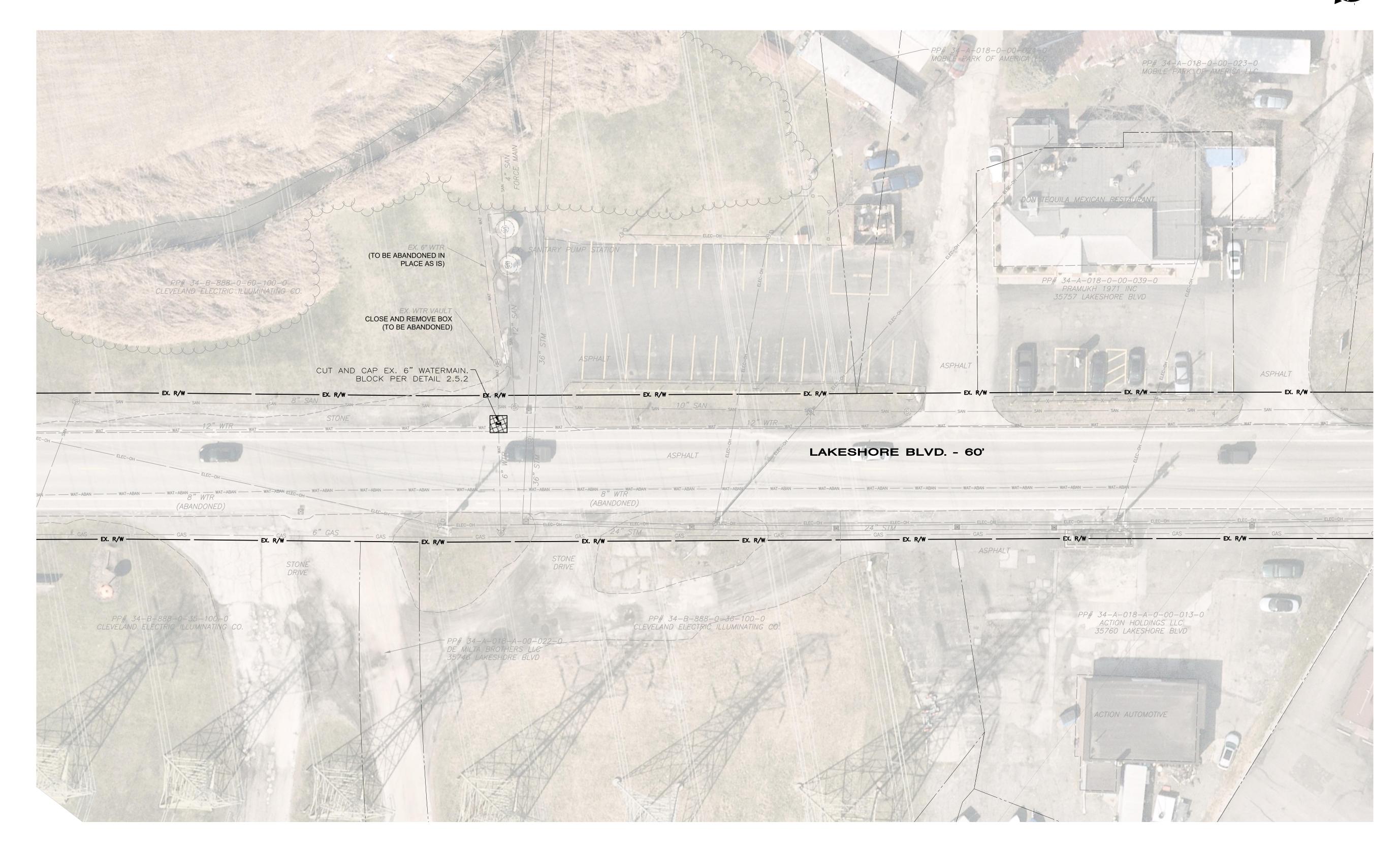
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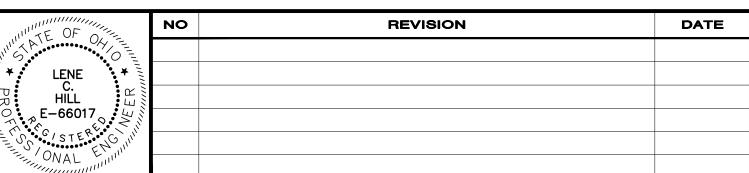
### **LEGEND**











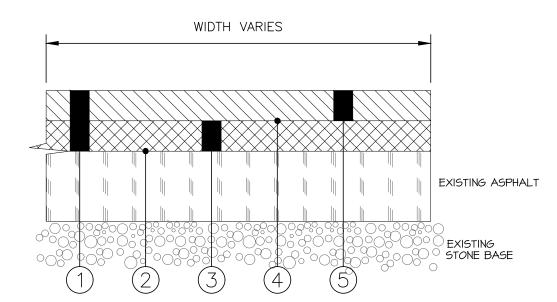
THE CITIES OF WILLOUGHBY & EASTLAKE
WATER POLLUTION CONTROL CENTER
WATERMAIN IMPROVEMENTS
PART B
LAKE COUNTY, OHIO

| SCALE:       |            |  |
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CHECKED BY:

SERVICE LINE CUT AND CAP AT LAKESHORE BLVD

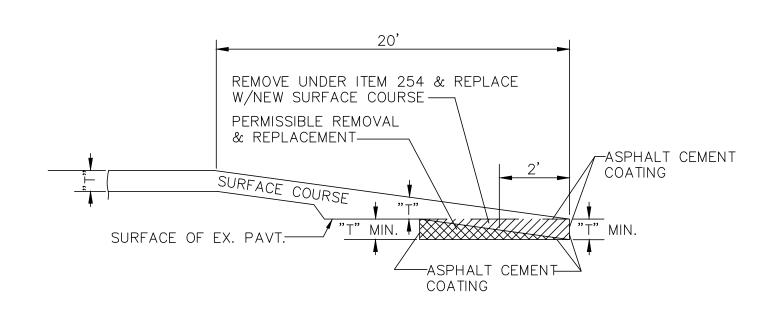
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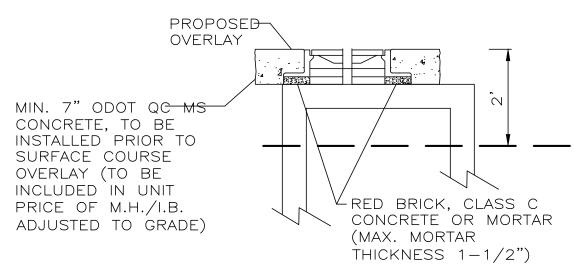
- (1) 2.5" PAVEMENT PLANING
- (2) ODOT ITEM 407 TACK COAT, TRACKLESS
- (0.09 GAL/SY) 3 1.5" ODOT ITEM 441 — ASPHALT INTERMEDIATE COURSE, TYPE 1 (448), PG64-22 (MAX 25% RAP)
- ODOT ITEM 407 TACK COAT, TRACKLESS (0.06 GAL/SY) 5 1" ODOT ITEM 441 - ASPHALT SURFACE COURSE, TYPE 1 (448),

PG64-22 (0% RAP)

#### PAVEMENT RESURFACING DETAIL



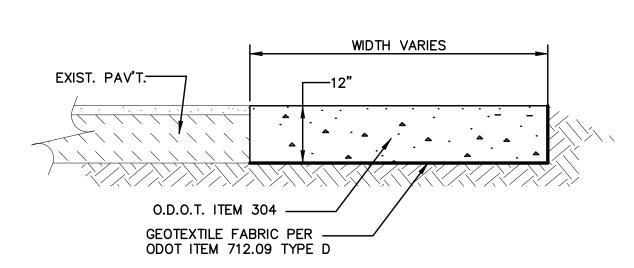
## **BUTT JOINT DETAIL**



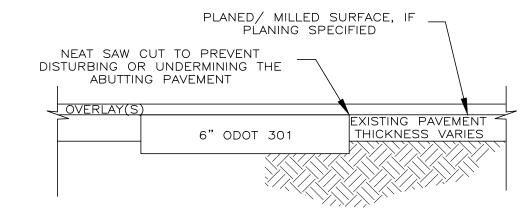
WORK SHALL INCLUDE RECONSTRUCTION OF MANHOLE/BASIN FOR UP TO 2' FROM PROPOSED RIM ELEVATION OR GUTTER GRADE ELEVATION

RECONSTRUCTION OF MANHOLE/BASIN BELOW 2' FROM PROPOSED RIM ELEVATION OR GUTTER GRADE ELEVATION SHALL BE MANHOLE/BASIN

#### RECONSTRUCTED TO GRADE M.H./I.B. ADJUSTED TO GRADE

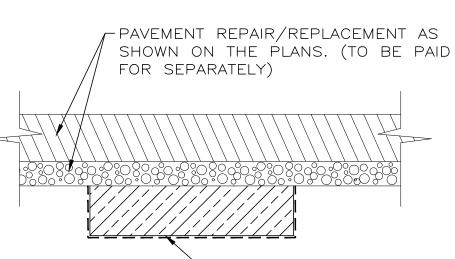


TEMPORARY PAVEMENT



#### **PAVEMENT REPAIR DETAIL** (ITEM 253)

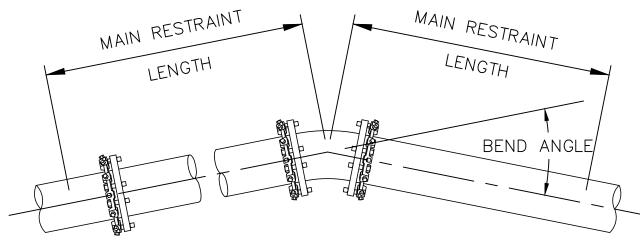
NOTE: ITEM SHALL BE USED AS DIRECTED



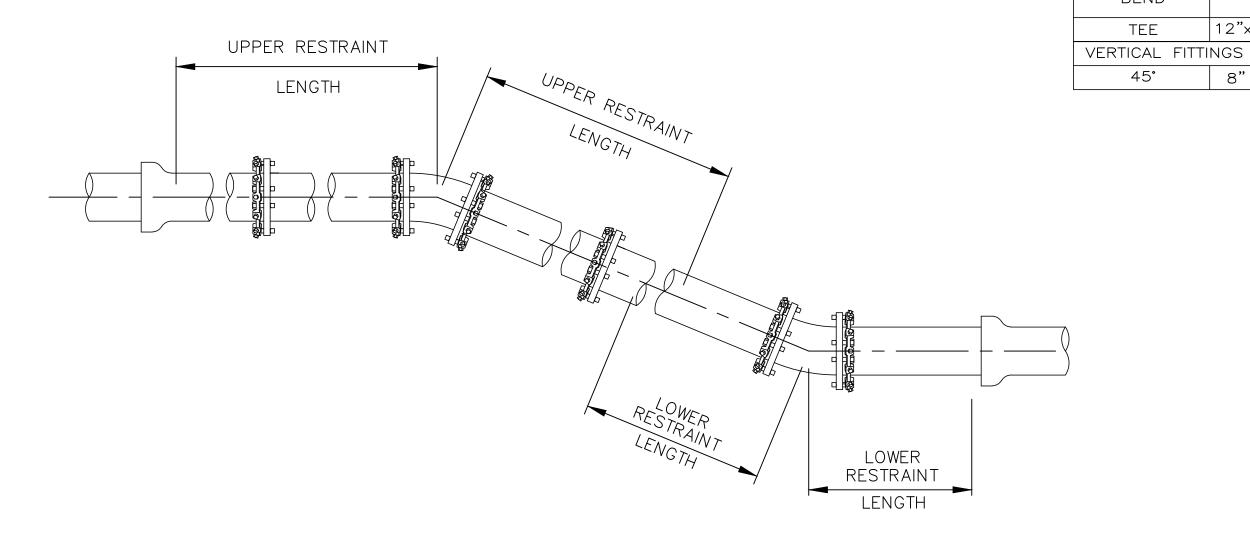
-COMPACTED ODOT 304 STONE AND GEOTEXTILE FABRIC PER ODOT 712.09, TYPE D. DEPTH OF UNDERCUT AND AREA SHALL BE AS DIRECTED BY THE ENGINEER IN ORDER TO REPLACE UNSTABLE MATERIAL

#### **ADDITIONAL SUBGRADE** REPLACEMENT DETAIL (ITEM 204)

NOTE: ITEM SHALL BE USED AS DIRECTED

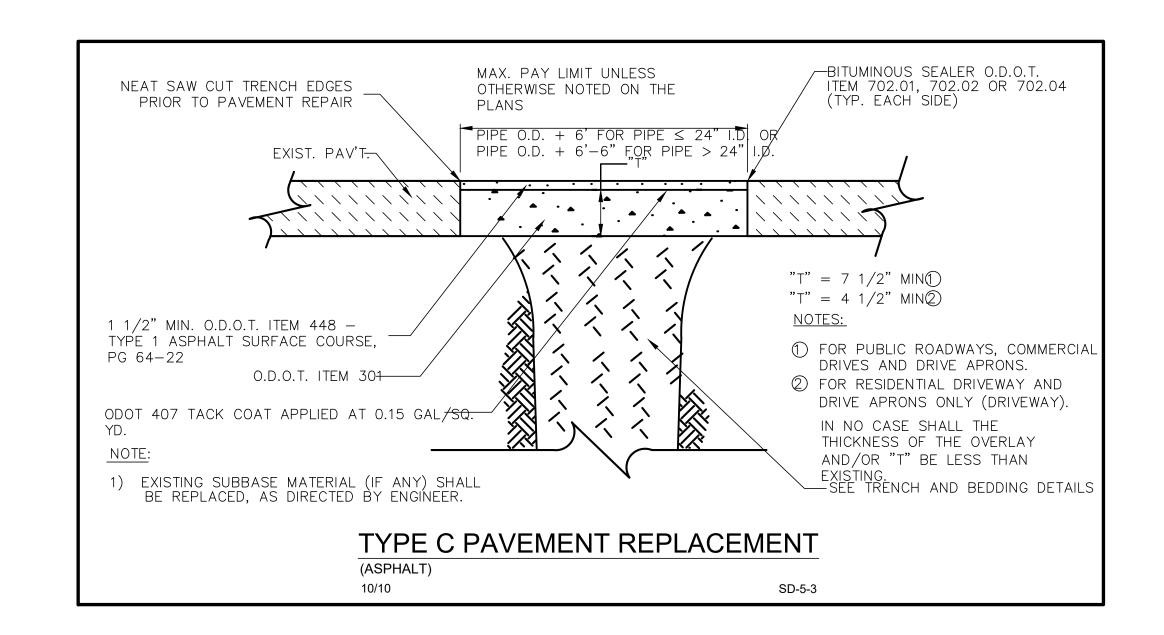


## TYPICAL HORIZONTAL BEND RESTRAINT



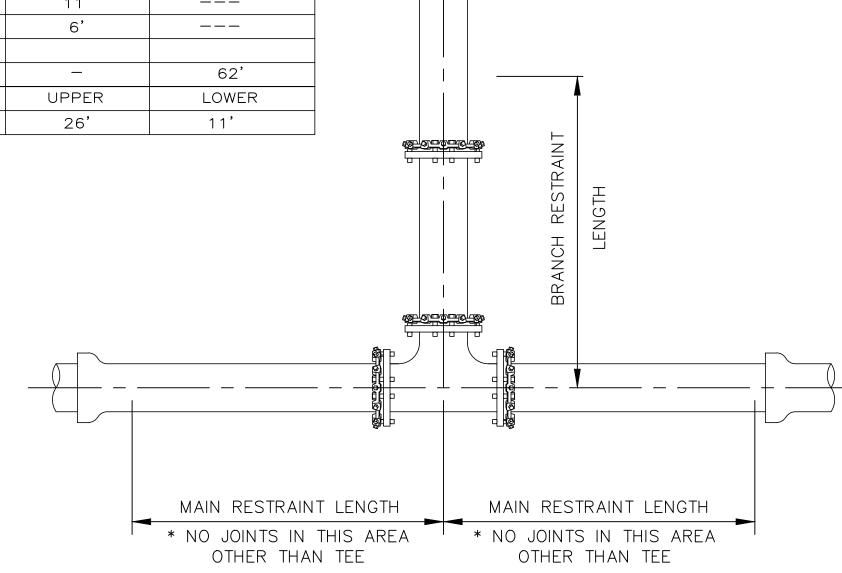
#### TYPICAL VERTICAL BEND RESTRAINT

NOT TO SCALE



| FOR STANDARD FITTINGS |        |                                     |                                       |  |  |
|-----------------------|--------|-------------------------------------|---------------------------------------|--|--|
| FITTING               | SIZE   | MINIMUM MAIN<br>RESTRAINT<br>LENGTH | MINIMUM BRANCH<br>RESTRAINT<br>LENGTH |  |  |
| HORIZONTAL FITTINGS   |        |                                     |                                       |  |  |
|                       |        |                                     |                                       |  |  |
| 45° BEND              | 8"     | 11'                                 |                                       |  |  |
| 1.25° & 22.5°         | 8"     | 6'                                  |                                       |  |  |
| BEND                  |        |                                     |                                       |  |  |
| TEE                   | 12"x8" | _                                   | 62'                                   |  |  |

THRUST RESTRAINT TABLE



#### TYPICAL HORIZONTAL TEE RESTRAINT NOT TO SCALE

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THE CITIES OF WILLOUGHBY & EASTLAKE WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS PART B LAKE COUNTY, OHIO

| SCALE:  | AS SH  | IOWN |
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| DATE:   | 04/22/ | 2024 |
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**DETAILS** 

PROJECT NO: 23004301 DRAWING NAME **DT-01** SHEET OF 8 11

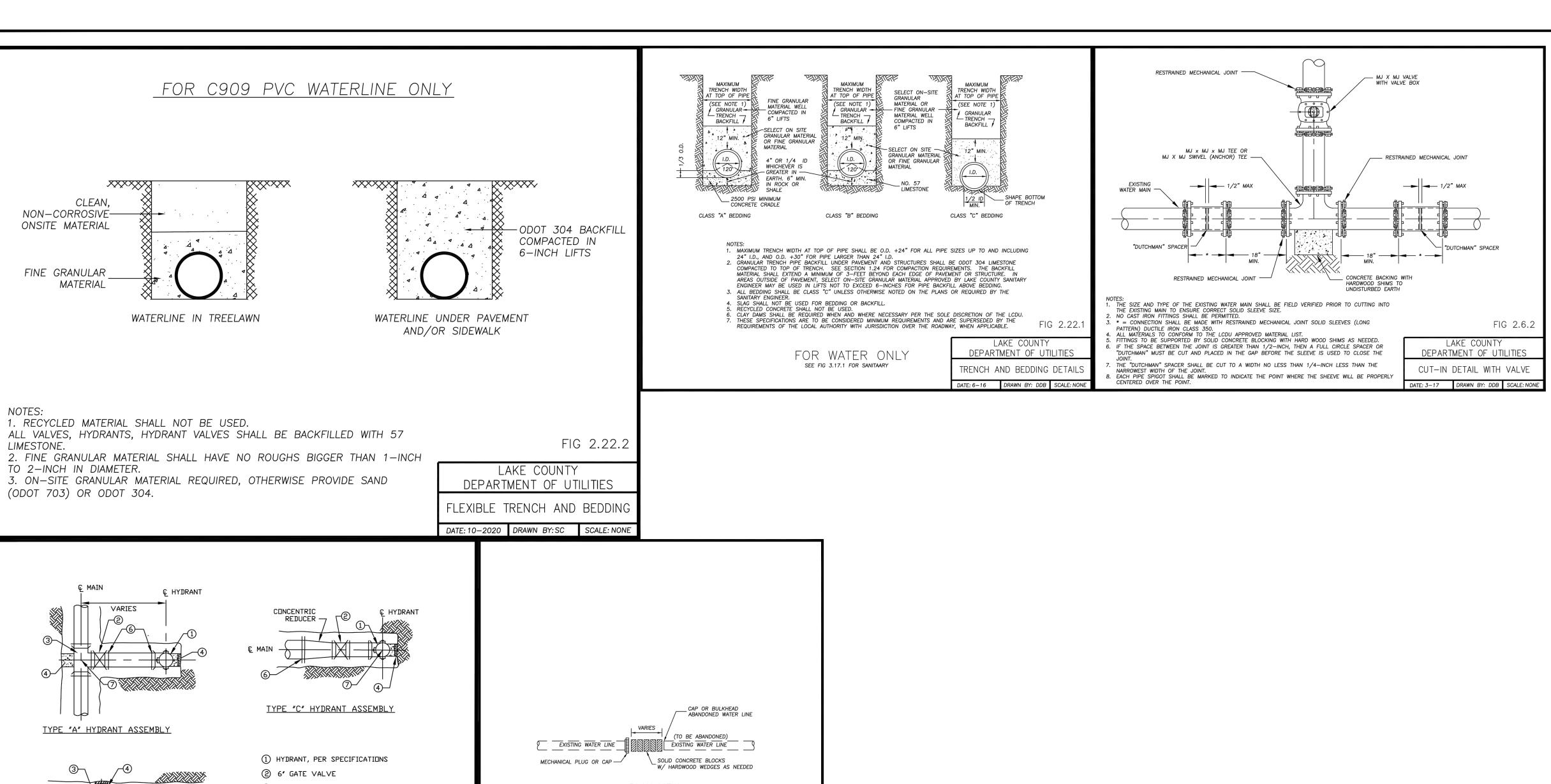
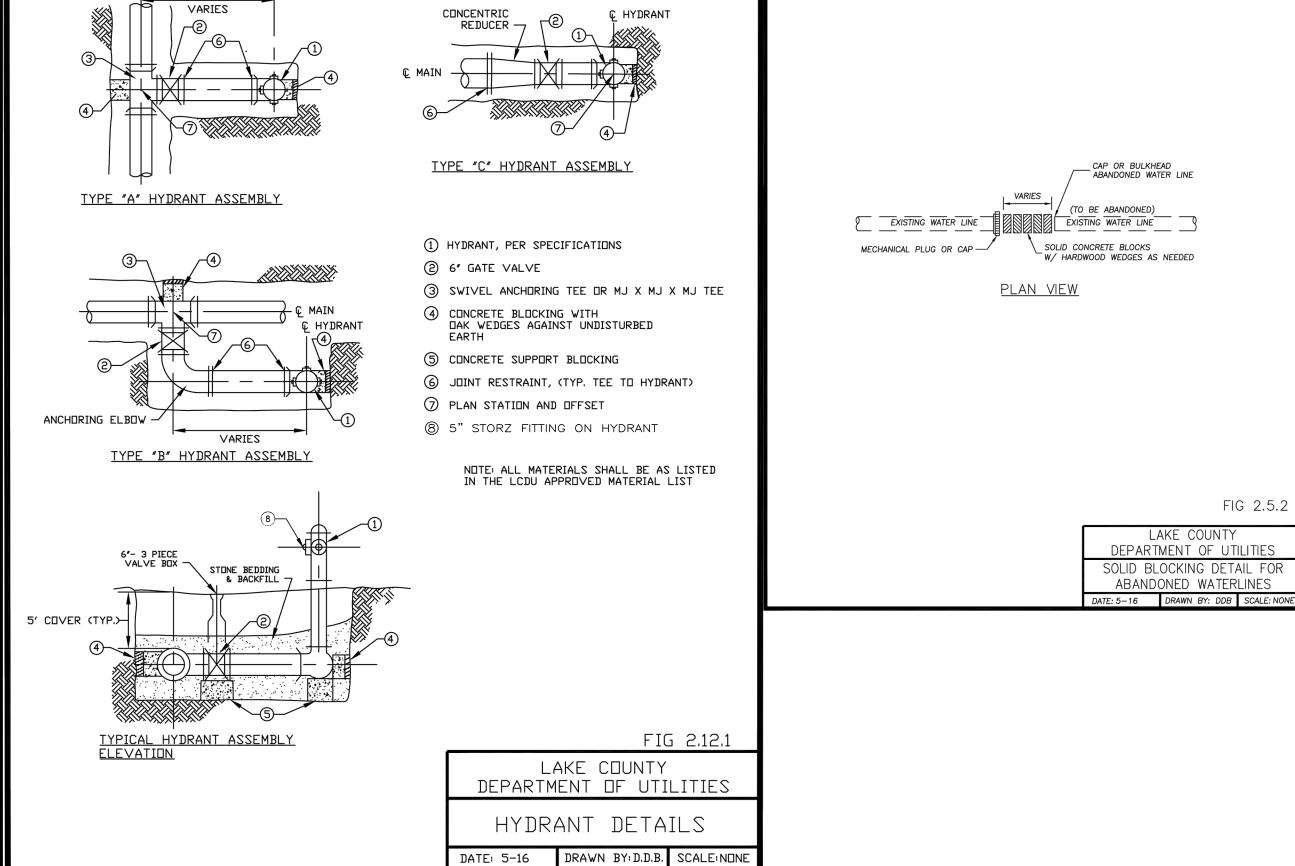
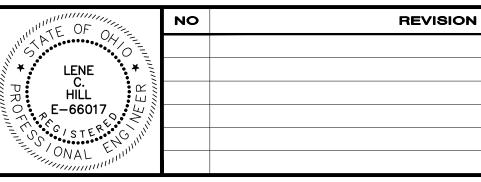


FIG 2.5.2

DATE



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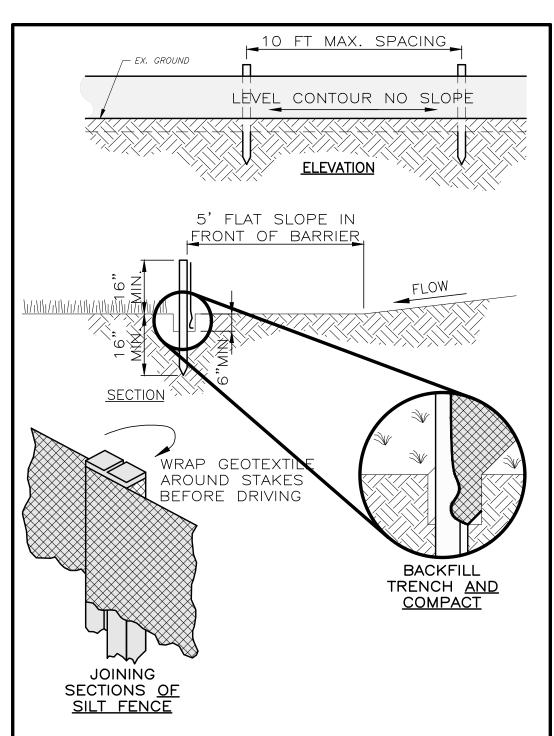


| THE CITIES OF WILLOUGHBY & EASTLAKE |
|-------------------------------------|
| WATER POLLUTION CONTROL CENTER      |
| WATERMAIN IMPROVEMENTS              |
| PART B                              |
| LAKE COUNTY, OHIO                   |

| SCALE:  | AS SH    | IOWN  |
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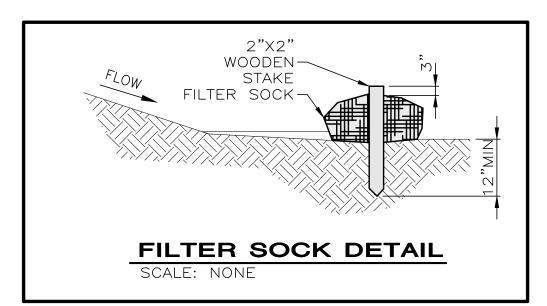
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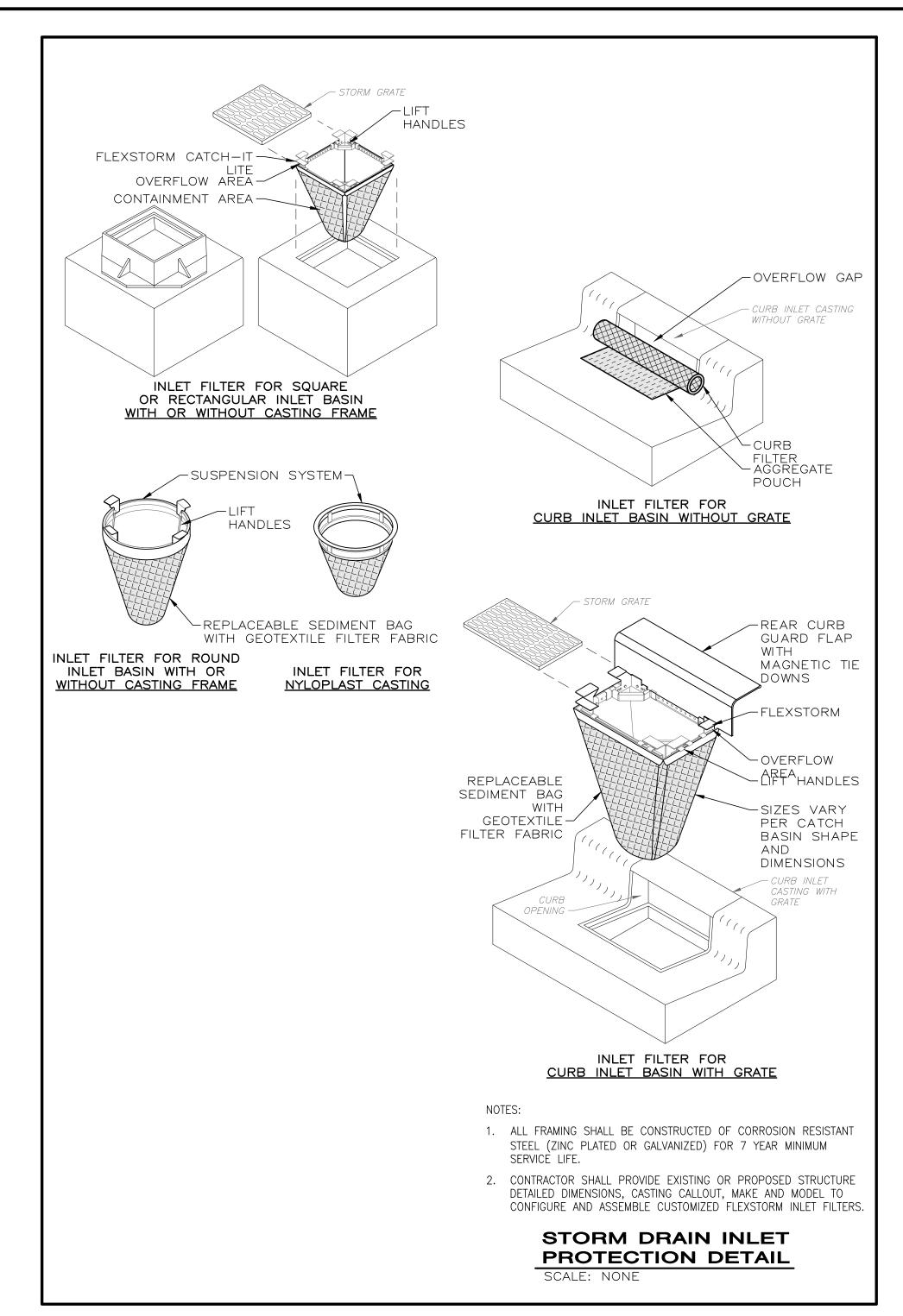


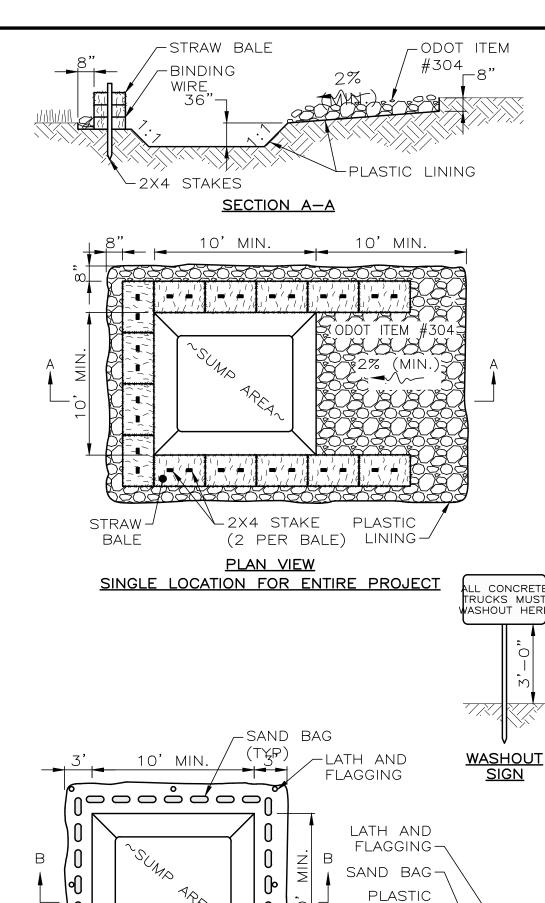
STABILITY

- 1. PRESERVE VEGETATION FOR 5 FEET, OR AS MUCH AS POSSIBLE UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM SILT FENCE
- 2. SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. PERFORM ONE OF THE FOLLOWING IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW:
- CHANGE THE LAYOUT OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT. • INSTALL OTHER PRACTICES.
- FABRIC TEST METHOD VALUES PROPERTIES GRAB TENSILE 90 LB. MIN STRENGTH D-1682190 PSI MIN
- MULLEN BURST STRENGTH D - 3786SLURRY FLOW 0.3 GAL./MIN./S.F. RATE EQUIVALENT 40-80 US STD. OPENING SIZE SIEVE CW-02215 ASTM-G-26 ULTRAVIOLET 90% MIN RADIATION

## SILT FENCE



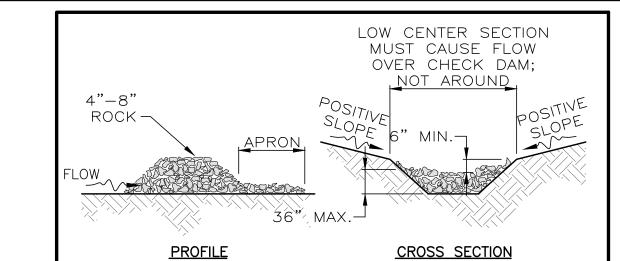




## LINING- $\Gamma(NIM)$ PLASTIC LINING-SECTION B-B PLAN VIEW TEMPORARY LOCATION FOR MULTIPLE PHASE PROJECT

- WASHOUT PIT SHALL BE LOCATED 100' MINIMUM FROM INLETS. STREAMS. WETLANDS AND ANY OTHER SURFACE WATERS.
- ALL EXCESS CONCRETE AND CONCRETE WASHOUT, INCLUDING FROM HAND MIXERS AND LIGHT EQUIPMENT, SHALL BE DISPOSED OF IN THE CONCRETE WASHOUT AREA. DISPOSAL OF EXCESS CONCRETE OR CONCRETE WASHOUT ON THE GROUND, OR IN STORM DRAINS, DITCHES OR WATER BODIES, IS PROHIBITED.
- CONCRETE WASHOUT AREA SHALL BE SUFFICIENT SIZE TO CONTAIN CONCRETE WASTE GENERATED. FOR LARGER SITES, MULTIPLE CONCRETE WASHOUT AREAS MAY BE REQUIRED.
- 4. IF CONCRETE WASHOUT AREA IS LOCATED AWAY FROM A PAVED SURFACE, CONSTRUCT A GRAVEL ACCESS ROUTE EQUAL IN COMPOSITION TO THE CONSTRUCTION ENTRANCE.
- PLASTIC LINING SHALL BE DOUBLE-LINED, CONTINUOUS 10-ML POLYETHYLENE SHEETING FREE OF HOLES, TEARS OR OTHER DEFECTS, AND INSTALLED ON A SMOOTH, LEVEL SURFACE, FREE OF ROCKS OR DEBRIS.
- 6. CONCRETE WASHOUT SIGNAGE SHALL BE CLEARLY VISIBLE AND LOCATED WITHIN 30 FEET OF EACH WASHOUT AREA.
- CONCRETE WASHOUT AREAS SHALL BE COVERED DURING INCLEMENT WEATHER TO PREVENT OVERFLOWS.
- PREFABRICATED, PORTABLE AND RE-USABLE CONCRETE WASHOUT CONTAINERS ARE ACCEPTABLE, BUT MUST BE SPECIFICALLY DESIGNED FOR CONCRETE WASHOUT USE.
- CONCRETE WASHOUT AREA SHALL BE INSPECTED DAILY TO CHECK FOR DAMAGE AND TO DETERMINE IF IT NEEDS CLEANED OR REPLACED. ANY DAMAGE TO THE SIDEWALLS OR POLYETHYLENE SHEETING SHALL BE REPAIRED IMMEDIATELY. THE CONCRETE WASHOUT AREA SHALL BE CLEANED OR REPLACED WHEN IT IS 75% FULL. THE POLYETHYLENE SHEETING SHALL BE REPLACED AFTER EACH CLEANING.
- 10. SAW CUT CONCRETE, RESIDUE FROM SAW CUT, AND GRINDINGS SHALL BE DISPOSED OF IN THE WASHOUT PIT.

#### **CONCRETE WASHOUT DETAIL**



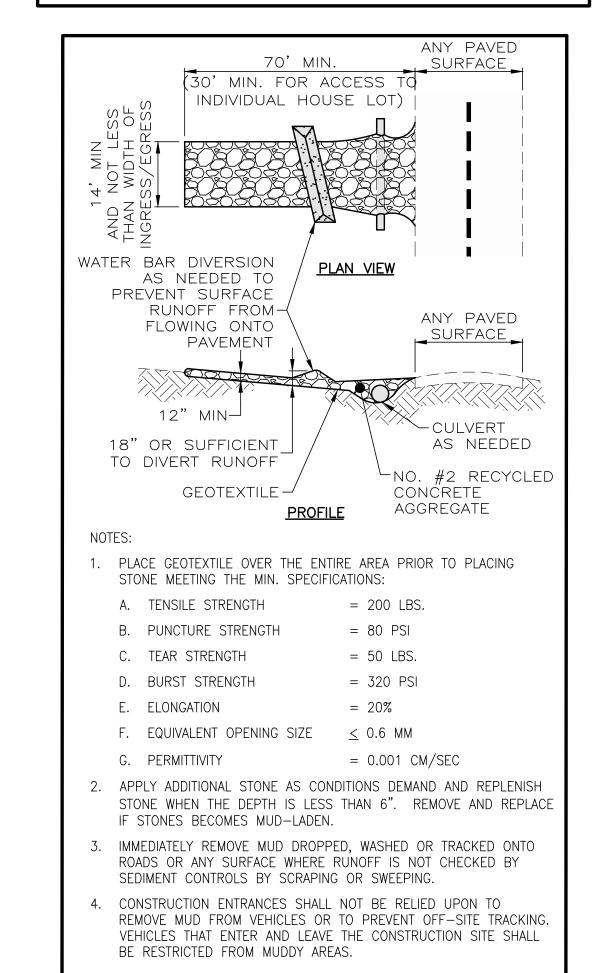
1) THE CHECK DAM SHALL BE CONSTRUCTED OF 4" TO 8" DIAMETER STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF

- 2) THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THE CENTER IS APPROXIMATELY 6" LOWER THAN THE OUTER EDGES; SO WATER WILL FLOW ACROSS THE CENTER AND NOT AROUND THE
- THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER OF THE WEIR SHALL NOT EXCEED 36".
- SPACING BETWEEN DAMS SHALL BE AS SHOWN IN THE CONSTRUCTION PLANS OR BY THE FOLLOWING TABLE:

|        | CHECK DAM SPACING |          |           |           |
|--------|-------------------|----------|-----------|-----------|
| DAM    | CHANNEL SLOPE     |          |           |           |
| HEIGHT | < 5%              | 5% - 10% | 10% – 15% | 15% – 20% |
| 1 FT.  | 65 FT.            | 30 FT.   | 20 FT.    | 15 FT.    |
| 2 FT.  | 130 FT.           | 65 FT.   | 40 FT.    | 30 FT.    |
| 3 FT.  | 200 FT.           | 100 FT.  | 65 FT.    | 50 FT.    |

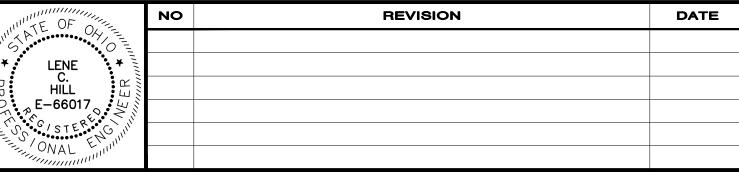
#### CHECK DAM DETAIL

SCALE: NONE



CONSTRUCTION ENTRANCE





THE CITIES OF WILLOUGHBY & EASTLAKE WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS PART B LAKE COUNTY, OHIO

| SCALE:       | AS S  | HOWN  |  |
|--------------|-------|-------|--|
| DATE:        | 04/22 | /2024 |  |
| DESIGNED BY: |       | BLM   |  |
| DRAWN I      | 3Y:   | BTZ   |  |

CHECKED BY: TJM

**EROSION AND SEDIMENT** CONTROL

SCALE: NONE

PROJECT NO: 23004301 DRAWING NAME **ESC-01** SHEET OF 10 11

#### STORM WATER POLLUTION PREVENTION PLAN NOTES

- THE EROSION CONTROL MEASURES INCLUDED IN THIS PLAN SHALL BE INSTALLED PRIOR TO INITIAL LAND DISTURBANCE ACTIVITIES OR AS SOON AS PRACTICAL. SEDIMENT SHALL BE PREVENTED FROM DISCHARGING FROM THE PROJECT SITE BY INSTALLING AND MAINTAINING SILT FENCE, SEDIMENT BASINS, ETC. AS SHOWN ON THIS PLAN. STRUCTURAL PRACTICES SHALL BE USED TO CONTROL EROSION FROM ALL SITES REMAINING DISTURBED FOR MORE THAN 14 DAYS.
- THE CONTRACTOR SHALL CONTROL WASTES, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORM WATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIALS, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL, IS REQUIRED. COMPLIANCE IS REQUIRED WITH ALL STATE OR LOCAL REGULATIONS REGARDING WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEMS.
- PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEARED OF ACCUMULATED SEDIMENT. OFF-SITE VEHICLE TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD NOTED ON PLAN. BULK CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE POINT OF LIKELY ORIGIN OR OTHER SUITABLE LOCATION.
- EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS OVER 50 FEET AWAY FROM THE STREAM BED TO REMAIN INACTIVE FOR MORE THAN 14 DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN SEVEN (7) DAYS OF THE MOST RECENT DISTURBANCE AND PRIOR TO THE ONSET OF WINTER WEATHER. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 7 DAYS AFTER FINAL GRADE IS ESTABLISHED.
- EXCEPT AS PREVENTED BY INCLEMENT WEATHER CONDITIONS, ALL DISTURBED AREAS WITHIN 50 FEET OF THE STREAM BED TO REMAIN INACTIVE FOR MORE THAN 14 DAYS SHALL BE STABILIZED BY SEEDING AND MULCHING, COVERING, OR BY OTHER EQUIVALENT EROSION CONTROL MEASURES WITHIN TWO (2) DAYS OF THE MOST RECENT DISTURBANCE AND PRIOR TO THE ONSET OF WINTER WEATHER. PERMANENT SOIL STABILIZATION SHALL BE PROVIDED WITHIN 2 DAYS AFTER FINAL GRADE IS ESTABLISHED.
- DISTURBED AREAS WHICH WILL REMAIN IDLE DURING THE WINTER MONTHS SHALL BE STABILIZED USING SEEDING AND MULCHING. SUCH STABILIZATION MEASURES MUST BE INSTALLED NO LATER THAN NOVEMBER 1.
- THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATION INCLUDED HEREIN. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- DURING THE PERIOD OF CONSTRUCTION ACTIVITY, ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR, AT THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE THE TRANSFER OF MAINTENANCE RESPONSIBILITIES, IF REQUIRED, WITH THE OWNER. MAINTENANCE SHALL BE IN ACCORDANCE WITH THE "OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006)".
- ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE "OHIO RAINWATER AND LAND DEVELOPMENT HANDBOOK (2006)," AND THE THE OHIO DEPARTMENT OF TRANSPORTATION (O.D.O.T.) STANDARD CONSTRUCTION DRAWING MC-11.
- 10. POST CONSTRUCTION STORM WATER MANAGEMENT: ALL DISTURBED AREAS SHALL HAVE ADEQUATE VEGETATION TO FILTER POLLUTANTS AS MUCH AS PRACTICAL. LOCAL LAWS REGARDING THE DISCHARGING OF OIL AND OTHER POLLUTANTS INTO DRAINAGE-WAYS SHALL APPLY.
- 11. ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED IN ACCORDANCE WITH THE CONDITIONS OF APPLICABLE NPDES PERMITS.
- 12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE REMOVED AND DISPOSED OF WITHIN THIRTY DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY PRACTICES ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.
- 13. THIS EROSION CONTROL PLAN MUST BE RETAINED ON-SITE AT ALL TIMES DURING THE PERIOD OF CONSTRUCTION.
- 14. FIELD ADJUSTMENTS FOR LOCATION AND DIMENSION OF SEDIMENT CONTROL DEVICES MAY BE MADE BY THE ENGINEER AS REQUIRED.
- 15. EROSION CONTROL DEVICES REMOVED DURING GRADING OPERATIONS SHALL BE PUT BACK IN PLACE AT THE END OF THE DAY OR DURING INCLEMENT WEATHER.
- 16. NO SOIL, ROCK, DEBRIS, OR OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE UNLESS DUMPING OR PLACING IS AUTHORIZED BY THE ENGINEER AND, WHEN APPLICABLE, THE U.S. ARMY CORPS OF ENGINEERS, FOR SUCH PURPOSES AS, BUT NOT LIMITED TO, CONSTRUCTION BRIDGES, CULVERTS, AND EROSION CONTROL
- 17. THE CONTRACTOR IS RESPONSIBLE TO CONFORM TO ALL REGULATORY REQUIREMENTS FOR DISCHARGING WATER RELATED TO DE-WATERING ACTIVITIES. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE COST OF ITEM 503 - COFFERDAMS, CRIBS AND SHEETING.
- 18. SEDIMENT PONDS/TRAPS AND PERIMETER CONTROLS SHALL BE IMPLEMENTED AS A FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE TO FUNCTION UNTIL UPLAND AREAS ARE
- 19. EROSION CONTROL BLANKETS WITH MATTING WILL BE USED ON DITCHES GREATER THAN 1.5% AND ALL OTHER SLOPES GREATER THAN 6% GRADE.
- 20. REGULAR INSPECTION AND MAINTENANCE WILL BE PROVIDED FOR ALL EROSION AND SEDIMENT CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE KEPT THROUGHOUT THE CONSTRUCTION PERIOD. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY 7 DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES OF RAIN IN A 24 HOUR PERIOD. PROVIDE NAME OF INSPECTOR, MAJOR OBSERVATIONS. DATE OF INSPECTION AND CORRECTIVE MEASURES TAKEN.
- 21. MARK LIMITS OF CLEARING AND GRUBBING FOR APPROVAL PRIOR TO CONSTRUCTION. AFTER CLEARING, BUT BEFORE GRUBBING, INSTALL ALL INITIAL EROSION CONTROL ITEMS. AFTER GRUBBING, BUT BEFORE TOPSOIL STRIPPING AND GRADING, INSTALL CONSTRUCTION FENCING AT THE CLEARING LIMIT LINE.
- 22. PROTECT UNDISTURBED AREAS THROUGHOUT CONSTRUCTION. DO NOT STORE EQUIPMENT, VEHICLES OR MATERIALS IN THE PROTECTED AREA BEYOND THE CONSTRUCTION FENCE.
- 23. OFF-SITE VEHICLES TRACKING SEDIMENT SHALL BE MINIMIZED. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD(S) NOTED ON THE PLAN.
- 24. OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
- 25. THE CONTRACTOR SHALL MAINTAIN AN SWPPP INSPECTION LOG IN THE FIELD.

- 26. ALL CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL, AS REQUIRED BY OHIO REVISED CODE (ORC) 3714.
- 27. NO TURBID STORM WATER MAY BE DISCHARGED OFF SITE.
- 28. THE CONTRACTOR SHALL CREATE A SIGN THAT WILL BE DISPLAYED ON SITE LABELING THE STEPS FOR SMALL AND LARGE OIL SPILL PROCEDURES. A SPILL RESPONSE KIT SHALL BE MAINTAINED ON THE SITE. THE SIGNAGE SHALL IDENTIFY WHERE THE KIT IS LOCATED.
- 29. (SMALL RELEASE) ANY DISCHARGE OF PETROLEUM OR PETROLEUM PRODUCTS OF LESS THAN 25 GALLONS ONTO A PERVIOUS SURFACE SHALL BE LEGALLY REMOVED AND PROPERLY TREATED OR PROPERLY DISPOSED OF, OR OTHERWISE REMEDIATED. SO THAT NO CONTAMINATIONS FROM THE DISCHARGE REMAINS ON-SITE. THE CONTRACTOR SHALL FOLLOW THE STEPS PROVIDED BELOW:
  - A. SPILLS LESS THAN 25 GALLONS THAT REMAINS ON SITE DOES NOT NEED TO BE REPORTED.
  - B. ALL SPILLS SHALL BE CONTAINED USING STRAW TO ABSORB THE LIQUID, A COMMERCIAL MATERIAL THAT IS CAPABLE OF ABSORBING OIL IN SOILS, MECHANICAL REMOVAL OR A VACUUM PUMP.
  - C. ONCE THE SPILL HAS BEEN CONTAINED, THE AFFECTED SOIL, MATERIAL AND/OR LIQUID SHALL BE LEGALLY DISPOSED OF IN A MUNICIPAL SOLID WASTE LANDFILL PERMITTED BY THE OHIO EPA.
- 30. (LARGE RELEASE) IN THE EVENT OF A LARGE RELEASE (25 OR MORE GALLONS) OF PETROLEUM WASTE, THE CONTRACTOR MUST CONTACT THE OHIO EPA AT 1-800-282-9378, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) WITHIN 30 MINUTES OF A SPILL OF 25 OR MORE GALLONS. THE CONTRACTOR SHALL FOLLOW THE STEPS PROVIDED BELOW:
  - A. ALL SPILLS GREATER THAN 25 GALLONS NEEDS TO BE REPORTED.
  - B. ALL SPILLS SHALL BE CONTAINED USING STRAW TO ABSORB THE LIQUID, A COMMERCIAL MATERIAL THAT IS CAPABLE OF ABSORBING OIL IN SOILS, MECHANICAL REMOVAL OR A VACUUM PUMP. IF THE SPILL IS HEADING TOWARD SURFACE OR GROUND WATER, THE CONTRACTOR SHALL SET BOOMS AS CLOSE TO THE WATER ENTRY POINT OF THE SPILL AS POSSIBLE.
  - C. ONCE THE SPILL HAS BEEN CONTAINED, THE AFFECTED SOIL, MATERIAL AND/OR LIQUID SHALL BE LEGALLY DISPOSED OF IN A MUNICPAL SOILD WASTE LANDFILL PERMITTED BY THE OHIO EPA.
  - 1. APPLY MULCH OR OTHER APPROPRIATE VEGETATIVE PRACTICES TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT FOR MORE THAN 45 DAYS OR ON AREAS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.
- 2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
- UNROTTED SMALL—GRAIN STRAW APPLIED AT A RATE OF 2 TONS/AC. OR 90 LB/1,000 S.F. (2 TO 3 BALES) AND SPREAD UNIFORMLY BY HAND OR MECHANICALLY.
- WOOD—CELLULOSE FIBER APPLIED AT A RATE OF 2,000 LB/AC. OR 46 LB/1,000 S.F.
- MULCH MATTING.
- WOOD CHIPS APPLIED AT 6 TONS/AC.
- 3. ANCHOR MULCH IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. ACCEPTABLE ANCHORING METHODS ARE:
- PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL USING A DISK. CRIMPER OR SIMILAR TOOL. DO NOT FINELY CHOP STRAW TO BE MECHANICALLY ANCHORED, BUT LEAVE LONGER THAN 6 INCHES.
- USE NETTING PER THE MANUFACTURER RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF OR ON CRITICAL SLOPES.
- SYNTHETIC BINDERS MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
- WOOD-CELLULOSE FIBER BINDER AT A NET DRY WEIGHT OF 750 LB/AC. WOOD CELLULOSE FIBER IS TO BE MIXED WITH WATER AND THE MIXTURE IS TO CONTAIN 50 LB/100 GAL. MAX. OF WOOD CELLULOSE FIBER.

#### MULCHING DETAIL

SCALE: NONE

- TEMPORARY SEED TO BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
- 2. THE SEED BED IS TO BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
- 3. SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH ADEQUATE STANDS OF VEGETATION. PERFORM SOIL TESTS ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
- 4. APPLY SEED UNIFORMLY WITH CYCLONE SEEDER, CULTIPACKER SEEDER OR HYDROSEEDER. COVER BROADCASTED SEED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPING INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, MIX THE SEED AND FERTILIZER ON SITE AND IMMEDIATELY USE.

#### MULCHING TEMPORARY SEEDING

Seeding

1. APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FLAT AREAS WITH FAVORABLE SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE STABILIZATION. DORMANT SEEDING IS TO BE MULCHED.

TEMPORARY SEEDING SPECIES SELECTION

2. SEE MULCHING FOR MATERIALS AND ANCHORING METHODS.

| SEEDING DATES           | SPECIES                                               | LB/1,000 S.F. | PER AC.                      |  |
|-------------------------|-------------------------------------------------------|---------------|------------------------------|--|
| March 1 to<br>August 15 | Oats<br>Tall Fescue<br>Perennial Ryegrass             | 3<br>1<br>1   | 4 bushel<br>40 lb.<br>40 lb. |  |
|                         | Perennial Ryegrass                                    | 2             | 40 lb.                       |  |
|                         | Tall Fescue                                           | 1             | 40 lb.                       |  |
| August 16               | Rye                                                   | 3             | 2 bushel                     |  |
| to November             | Tall Fescue                                           | 1             | 40 lb.                       |  |
| 1                       | Perennial Ryegrass                                    | 1             | 40 lb.                       |  |
|                         | Wheat                                                 | 3             | 2 bushel                     |  |
|                         | Tall Fescue                                           | 1             | 40 lb.                       |  |
|                         | Perennial Ryegrass                                    | 1             | 40 lb.                       |  |
|                         | Perennial Ryegrass                                    | 2             | 40 lb.                       |  |
|                         | Tall Fescue                                           | 1             | 40 lb.                       |  |
| November 1<br>to Spring | Use mulch only, sodding practices or dormant seeding. |               |                              |  |

TEMPORARY SEEDING DETAIL SCALE: NONE

<u>SPECIFICATIONS FOR PERMANENT SEEDING SITE PREPARATION:</u>

- 1. A SUBSOILER, PLOW OR OTHER IMPLEMENT TO BE USED TO REDUCE SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. SUBSOILING TO BE DONE WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT TO BE DONE ON SLIP-PRONE AREAS.
- GRADE THE SITE AS NEEDED TO PERMIT USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
- APPLY RESOIL WHERE NEEDED TO ESTABLISH VEGETATION.

#### SEEDBED PREPARATION:

- APPLY AGRICULTURAL GROUND LIMESTONE TO ACIDIC SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST. APPLY AT RATE OF 100 LB/1,000 S.F. OR 2 TONS/AC.
- . APPLY FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY AT A RATE OF 12 LB/1,000 S.F. OR 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS.
- . LIME AND FERTILIZER TO BE WORKED INTO THE SOIL WITH A DISK HARROW, SPRING-TOOTH HARROW, OR OTHER SUITABLE FIELD IMPLEMENT TO A DEPTH OF 3".

#### **SEEDING DATES AND SOIL CONDITIONS:**

SEED MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. THESE ARE IDEAL SEEDING DATES, BUT SEEDING MAY BE MADE ANY TIME THROUGHOUT THE GROWING SEASON WITH THE USE OF ADDITIONAL MULCH AND IRRIGATION. TILLAGE/SEED BED PREPARATION TO BE DONE WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEE THE FOLLOWING SECTION ON DORMANT SEEDING FOR WINTER SEEDING.

#### DORMANT SEEDINGS:

- DO NOT PLANT SEEDINGS FROM OCTOBER 1 TO NOVEMBER 20. SEEDS ARE LIKELY TO GERMINATE DURING THIS PERIOD, BUT PROBABLY WILL NOT SURVIVE THE WINTER.
- 2. THE FOLLOWING METHODS MAY BE USED:
- FROM OCTOBER 1 TO NOVEMBER 20, PREPARE THE SEED BED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER. THEN MULCH AND ANCHOR. AFTER NOVEMBER 20 AND BEFORE MARCH 15. INCREASE THE SEEDING RATES BY 50% AND BROADCAST THE SEED MIXTURE.
- FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL CONDITIONS PERMIT, PREPARE THE SEED BED, LIME AND FERTILIZER, APPLY THE SEED MIXTURE, MULCH AND ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
- APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER. OR HYDRO-SEEDED (SLURRY MAY INCLUDE SEED AND FERTILIZER) ON FIRM, MOIST SEED BED.
- WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER IS USED, THE SEED BED IS TO BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG.

#### <u>IRRIGATION</u>:

- 1. PERMANENT SEEDING TO INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS AS NEEDED FOR ADEQUATE MOISTURE FOR SEED GERMINATION AND PLANT GROWTH.
- EXCESSIVE IRRIGATION RATES TO BE AVOIDED AND IRRIGATION MONITORED TO PREVENT FROSION AND DAMAGE FROM RUNOFF.

#### **MULCHING**:

APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING. SEEDING MADE DURING OPTIMUM SEEDING DATES ON FLAT AREAS WITH FAVORABLE SOIL CONDITIONS MAY NOT NEED MULCH TO ACHIEVE STABILIZATION. DORMANT SEEDING IS TO BE MULCHED.

#### SPECIFICATIONS FOR MAINTENANCE OF PERMANENT SEEDING:

- PERMANENT SEEDING TO NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF PLANTING. SEEDED AREAS TO BE INSPECTED FOR FAILURE AND VEGETATION REESTABLISHED AS NEEDED. DEPENDING ON SITE CONDITIONS, IT MAY BE NECESSARY TO IRRIGATE, FERTILIZE, OVERSEED, OR REESTABLISH PLANTINGS IN ORDER TO PROVIDE PERMANENT VEGETATION FOR ADEQUATE EROSION CONTROL.
- 2. ESTABLISH MAINTENANCE FERTILIZATION RATES BY SOIL TEST RECOMMENDATIONS OR USING THE FOLLOWING RATES:

| SEE         | DING RATE                 |                                                              |  |  |  |
|-------------|---------------------------|--------------------------------------------------------------|--|--|--|
| LB./AC.     | LB./1,000 S.F.            | NOTES:                                                       |  |  |  |
| GENERAL USE |                           |                                                              |  |  |  |
|             |                           |                                                              |  |  |  |
|             | ,                         |                                                              |  |  |  |
| 10-20       | 1/4 TO 1/                 | <b>′</b> 2                                                   |  |  |  |
| 40          | 1                         |                                                              |  |  |  |
| 40          | 1                         |                                                              |  |  |  |
|             | GENE 20-40 10-20 10-20 40 | 20-40 1/2 TO 1<br>10-20 1/4 TO 1/<br>10-20 1/4 TO 1/<br>40 1 |  |  |  |

| STEEP BANKS OR CUT SLOPES  |          |            |                                     |  |
|----------------------------|----------|------------|-------------------------------------|--|
| Tall Fescue                | 40       | 1          |                                     |  |
| Crown Vetch<br>Tall Fescue | 10<br>20 | 1/4<br>1/2 | Do not seed<br>later than<br>August |  |
| Flat Pea<br>Tall Fescue    | 20<br>20 | 1/2<br>1/2 | Do not seed<br>later than<br>August |  |
|                            |          |            |                                     |  |

| ROAD DITCHES AND SWALES               |         |       |                                     |  |  |  |
|---------------------------------------|---------|-------|-------------------------------------|--|--|--|
| Tall Fescue                           | 40      | 1     |                                     |  |  |  |
| Dwarf Fescue<br>Kentucky<br>Bluegrass | 90<br>5 | 2-1/4 | Do not seed<br>later than<br>August |  |  |  |
|                                       |         |       |                                     |  |  |  |
| LAWNI                                 |         |       |                                     |  |  |  |

| LAWN                                                  |    |       |            |  |  |
|-------------------------------------------------------|----|-------|------------|--|--|
| Kentucky<br>Bluegrass                                 | 60 | 1-1/2 |            |  |  |
| Perennial Ryegrass                                    | 60 | 1-1/2 |            |  |  |
| Kentucky                                              | 60 | 1-1/2 | For shaded |  |  |
| Bluegrass<br>Creeping Red<br>Fescue                   | 60 | 1-1/2 | areas      |  |  |
| Note: Other approved seed species may be substituted. |    |       |            |  |  |

|   | MAINTENANCE FOR PERMANENT SEEDINGS<br>FERTILIZATION AND MOWING       |          |             |                                                       |                |  |
|---|----------------------------------------------------------------------|----------|-------------|-------------------------------------------------------|----------------|--|
|   | MIXTURE                                                              | FORMULA  | LB./<br>AC. | TIME                                                  | MOWING         |  |
| ò | Creeping Red<br>Fescue<br>Domestic Ryegrass<br>Kentucky<br>Bluegrass | 10-10-10 | 500         |                                                       | <u>&gt;</u> 3" |  |
|   | Tall Fescue                                                          | 10-10-10 | 500         | Fall, yearly<br>or as<br>needed                       | <u>&gt;</u> 4" |  |
|   | Dwarf Fescue                                                         | 10-10-10 | 500         |                                                       | <u>≥</u> 2"    |  |
|   | Crown Vetch<br>Fescue                                                | 0-20-20  | 400         | yeariy                                                | Do not         |  |
|   | Flat Pea<br>Fescue                                                   | 0-20-20  | 400         | following<br>establishment<br>then every<br>4—7 years | mow            |  |

Note: Following soil test recommendations is

preferred to the fertilizer rates above.

PERMANENT SEEDING DETAIL

SCALE: NONE

our trusted advisor consultants architects planners

**REVISION** NO DATE LENE E-66017

THE CITIES OF WILLOUGHBY & EASTLAKE WATER POLLUTION CONTROL CENTER WATERMAIN IMPROVEMENTS PART B LAKE COUNTY, OHIO

**SCALE:** AS SHOWN **DATE:** 04/22/2024 **DESIGNED BY: BLM** DRAWN BY: BTZ

CHECKED BY: TJM

**EROSION AND SEDIMENT** CONTROL

PROJECT NO: 23004301 DRAWING NAME **ESC-02** SHEET OF 11